



May Cancer be Transmitted by Dental Instruments?

By J. S. MARSHALL, M. D., D. D. S., Chicago, Ill.

I wish to say a few words in reply to certain statements of Dr. G. Lenox Curtis, which appeared in the December number of the *ITEMS OF INTEREST*, in relation to carcinoma, which I feel, to say the least, are misleading and need to be corrected.

He states in these remarks that a case of carcinoma of the jaw which came under his observation, had its origin in inoculation with a "dirty instrument"—blood upon an extracting forceps—and then lays commendable stress upon the sterilization of dental instruments.

Now I agree most fully with all that Dr. Curtis says about the value and positive need of complete and perfect sterilization of all operating instruments.

It is a lamentable fact that some dentists do not seem to fully appreciate the value of antiseptics in their operations, and for this reason infectious diseases are sometimes transmitted from one patient to another. There has been, however, no evidence so far presented which *proves carcinoma to be an infectious disease, or that it is of bacterial origin*. On the contrary, the evidence is nearly all upon the other side.

There are, however, certain inflammatory growths and hyperplasias of tissue which are dependent upon the presence of micro-organisms—like actinomycosis, tuberculosis, syphilis, leprosy, etc.—for their origin, and which are infectious, but these are not classed as neoplasms.

When Dr. Curtis therefore says that the patient was inoculated with cancer from a "dirty instrument," he is begging the question and presents no proof to substantiate his position, and this is certainly not according to the methods of scientific men in general. Evidence is necessary in science as well as in law, to establish a fact, but in science, the evidence must be positive and incontrovertible to be accepted as proving the fact.

Dr. Curtis, as I understand, did not see the case at the time of the extraction of the tooth, which he says was loose. How, then, does he know that the patient was not suffering from carcinoma in a more or less advanced stage when the tooth was removed.

Carcinoma when located upon the alveolar process, always causes loosening of the teeth as an early symptom, from resorption of the bone.

Again, how does he know that the tumor of which he speaks, *was carcinoma at all*, when no microscopic examination was made of its structure? Clinical appearances are often misleading, and as a consequence no careful surgeon would dare to give an opinion or make a diagnosis upon clinical evidence alone. There is but one method of determining the malignant or benign character of a tumor, and that is by a microscopic study of its histologic elements and their structural arrangement; even then in certain stages of their growth, considerable difficulty is experienced in determining their true character.

The tumor under discussion might have been, and probably was, an inflammatory growth or hyperplasia of tissue due to infection by micro-organisms, either from the "dirty instrument" or from the micro-organisms within the mouth which are known to be a constant and ever menacing fact—or in the infection of wounds of the oral cavity; but which of these means of infection was the cause of the abnormal growth it would, under the circumstances, be difficult to prove.

The question of the malignant character of the growth could have been definitely ascertained—if it was such a growth—by the aid of the microscope, and the slides could have been photographed and presented in proof of his diagnosis, but as no such evidence was presented at the New Jersey meeting, nor at a previous meeting of another society where the same statements were made and challenged, we must decline to accept his diagnosis.

On the other hand, the clinical history, such as was presented, was all in favor of the supposition that the growth was an infectious swelling due to the entrance of micro-organisms into the wound made by the extraction of the tooth.

A tumor, in the general acceptance of the term, is any enlargement or swelling of a part. Pathologists, however, generally restrict the term to neoplasms, new growths, which can not be classed as inflammatory swellings, hyperplasia of tissue, or retention cysts.

An inflammatory swelling or hyperplasia of tissue due to bacterial infection, may sometimes be mistaken for a neoplasm, and *vice versa*. The differences between them, however, may be recognized by several important features in their history.

Differentiation of Hyperplasia and Neoplasms.

First—In inflammatory swelling and hyperplasia, the growth and extension are often very rapid and progressive, but not continuous or permanent.

Second—There is a lack of definite outline.

Third—They are amenable to agents which promote absorption by neutralizing or removing the primary cause.

Fourth—They are subject to early and acute degenerative changes. An acute suppurative inflammation on account of its violent local and general symptoms, is rarely mistaken for a malignant neoplasm. While upon the other hand neoplasms are usually characterized by:

First—Their definite outlines.

Second—Their slow but progressive growth.

Third—The permanency of the new-found tissue.

Fourth—Their resistance to internal medication.

Most pathologists of the present day adhere to the theory that all neoplasms are the result of either congenital misplacement of normal embryonic cells, or of traumatic inclusions of mature cells in abnormal locations from wounds, burns and other injuries.

Conheim believed that all tumors were of congenital origin, and were developed from a matrix of misplaced embryonic cells; while Gerré, Senn and others are of the opinion that they are occasionally of post-natal origin, being the result of traumatic injuries by which epithelial tissue becomes misplaced and develops in an abnormal position, independent of causes arising from the action of micro-organisms.

Zeigler, however, looks upon Conheim's theory as more or less hypothetical, and the whole subject of the etiology of tumors in general is still in a very unsatisfactory and defective state.

The two latest and most reliable authorities upon tumors in the English language, Sutton (1893) and Senn (1895), both accept the teaching of Conheim in relation to the *congenital origin of nearly all forms of neoplasms, and their development from misplaced embryonic tissue. That they may also occasionally have their origin in a traumatic misplacement of mature cells.*

A tumor of congenital origin always represents normal tissue elements in an abnormal position. The histologic structure of the tissue which composes a neoplasm, is governed by the inherent genetic function of the embryonic cells which form the tumor matrix.

A matrix derived from the epiblast, or the hypoblast, would invariably be of the epithelial type—carcinoma, epithelioma, adenoma, etc.—while if derived from the mesoblast the result would be a tumor of the connective-tissue type—fibroma, chondroma, osteoma, angioma, sarcoma, etc.

The *character* of the neoplasm depends upon the stage of arrested

cell growth of the tumor matrix. The nearer the tissue comprising the tumor matrix approaches the completion of the process of complete cell differentiation, the greater the probability that the tumor which may be developed from it will be of benign character; while upon the other hand, the nearer it resembles embryonic tissue—the more immature the cells—the greater the liability that the tumor will be of malignant character.

Neoplasms *grow* by the multiplication of their cell-elements, following the order of their prototypes, the normal cells. This process is by indirect division or segmentation known as *karyokinesis*, and it is sometimes very active, especially so in certain stages of growth in the malignant neoplasms.

The experiment which Dr. Curtis saw in Vienna, of the inoculation of a rabbit with a piece of carcinoma, is quite exceptional, as it has always been exceedingly difficult to inoculate the lower animals with carcinoma. The fact, however, that the rabbit was inoculated with the carcinoma, only proves the theory that a traumatic inclusion of cells more or less immature, are capable of developing in an abnormal position and producing a tumor of the type of cells from which the original matrix was developed.

Metastatic tumors are also developed from immature cells derived from the original tumor, by the degenerative process which occurs in the latter stages of the disease, and by which the cancer cells are floated into the lymph or blood current. These cells, later, become arrested in their passage, either by a lymphatic gland or a capillary bloodvessel, when they form a nidus for the growth and development of a secondary tumor having all of the characteristics of the original neoplasm.

Transmission of Cancer.

By ROBERT H. M. DAWBARN, M. D., New York.

Sterilization of Instruments.

Dr. Lenox Curtis's advice to dentists, in the December ITEMS OF INTEREST, to attend most carefully to sterilizing the instruments wherewith they work about the mouth, is certainly timely. Personally, I do not believe that the method in most frequent use today can ever be improved upon. It is ideal in its simplicity and its cheapness, and it does not attack the steel. I allude to boiling for a very few minutes in a one per cent. solution of caustic potash, washing soda in water. To quote from Schimmelbusch, whose work on "Aseptic Treatment of Wounds"

should be in the hands of every practitioner, "a submersion of the instruments for a few seconds would therefore be sufficient to destroy pus formers, and a boiling for five minutes in the soda lye answers every possible requirement of practice." (Page 72.)

The formalin, or other sterilizer than that just mentioned, is inevitably expensive, and the writer fails to see in what way it possesses any advantage whatever over the water. If tools are dried while still *hot* from the water, no moisture will remain in cracks or crevices to invite rust. The idea that the boiling here advocated can possibly spoil the temper of the tools is incorrect. This statement he has upon authority of a chemist and steel experts whose life is spent in a study of the reaction of steel to all possible degrees of heat—Mr. Clement Le Boutillier.

Regarding Dr. Curtis's assertion that he had
**Cancer Not Proven
to be Microbic.** known two instances of cancer caused by soiled instruments, and his further personal experiences of a similar nature, I must take the same view as did Dr. Ottolengui, to wit, that it is most doubtful whether cancer is ever transmitted from one human being to another. In nineteen years' experience in surgery, I have yet to see a case of this nature.

In this period I have come across just one instance in which a physician here in New York developed a cancer of the hand while attending and dressing a patient with the same disease. This instance was widely discussed at the time, and the verdict of those best entitled to express an opinion was that it was a mere coincidence—not a case of cause and effect.

The truth is not yet known as to whether there exists a cancer microbe. There are certain facts which point that way, and certain others which cause many eminent pathologists to consider cancer as in the nature of a local riot or rebellion in the republic of cells which constitutes our own body. Then, too, what may be true in this regard for sarcoma, may be untrue for carcinoma. Both are classed roughly as "cancer," and are malignant growths. We all *hope* that cancerous diseases may at length be proven microbic in nature, for then a cure other than the prompt and free use of the knife may reasonably be expected to be discovered, in some antimicrobial serum, as has been the case with diphtheria and several other diseases. If microbic, however, the germ of cancer is presumably *sui generis*, for all ordinary means of isolating it have thus far failed. Possibly it may prove to be not like almost all the rest, of a *vegetable* nature (a study in bacteriology being truly a study of botany), but instead, belonging to the lowest type of *animal* parasitic cell life.

It is generally believed that cancer is on the increase; and even now one woman in twenty dies from this cause. (Roswell Park, and others.)

At the last meeting of the New York State Medical Society, I had the pleasure of voting to request the State Legislature to aid the Pathological Department of the university of which Dr. Park is a professor, by a grant of money for the special purpose of pushing the study of malignant disease, in an endeavor to prove or disprove the truth of the theory of microbic causation. This subsidy was granted, and is now being used for this purpose.

Cancer Not Contagious.

By HOWARD LILIENTHAL, M.D., New York.

Dr. Curtis, as reported in *ITEMS OF INTEREST* for December, 1899, page 932, seems to have reached a conclusion concerning the case of which he speaks which is so remarkable that, if correct, it deserves wide publication in medical as well as in dental literature. Aside from the question as to whether the case was one of transplantaion or of germ infection I would call attention to the fact that even the experimental transplantaion of carcinoma when performed with all possible care, is not invariably successful, while the accidental transplantaion of new growths of any kind from one human individual to another has, so far as I am aware, never occurred.

In the case in point there was a loose tooth, but we are not informed as to the probable cause of this condition. Is it not possible that an unrecognized tumor in the socket may have loosened the tooth? Further, we are left in ignorance as to the histology of the neoplasm, though this might throw considerable light upon the case, especially if we should be fortunate enough to trace the blood upon the unclean instrument to the individual from whom the contagion is supposed to have emanated.

The possibility of an initial lesion with great induration and involvement of the glands might also be considered, particularly since the infection declared itself two weeks after the suspicious contact. Clinically and without the aid of the microscope such a tumor might closely resemble carcinoma.

At any rate, it is to be hoped that Dr. Curtis will favor us later with a complete report of this extremely rare and interesting case.

The necessity for asepsis and antisepsis in dentistry is, of course, self-evident.

Cancer Not Inoculable.

By A. G. GERSTER, M. D., New York.

I have read the paper of Dr. Le Roy, and the discussion following it, notably the remarks of Dr. Curtis and the criticism by Dr. Ottolengui of some of his statements referring to the inoculation of cancer, carried by uncleansed dental instruments from one mouth to the other.

While septic infection has, within my own experience, certainly been transmitted in this manner, the transmission of cancer has not, so far, been proven in *one single* case from man to man.

The facts in the case brought forward by Dr. Curtis, are, on account of the laxity and inaccuracy of the observations therein made, utterly lacking the elements of proof, or even plausibility. The other supporting statements used by Dr. Curtis are also vague and hazy, and unworthy of serious consideration. He ought to cite his authorities by name and page of their publications, so that verification may thereby be rendered possible.

The criticism was, I think, thoroughly pertinent and unassailable. All these, my remarks, however, should not be construed as an extenuation or justification of the dirty practices of many, even well established dentists.

Cancer Not Infections.

By J. A. COUNTER, D.M.D., Toledo, Ohio.

I read with much interest the discussion of the meeting of the Central Dental Association, Northern New Jersey, held October 16th, 1899, the report of which occurs in December ITEMS OF INTEREST.

The part of particular interest to me was the assertion made by Dr. Curtis, and I would if possible evoke further discussion of this important subject.

I cannot help agreeing with Dr. Ottolengui that Dr. Curtis has given us no convincing evidence that the germ, as he claims, was transmitted from one patient to another by an unclean instrument. His proof is anything but complete. This I think is one of the cases where circumstantial evidence would not be taken. Neither do I think the Vienna demonstration convincing where the piece of carcinoma was placed under the skin of the rabbit.

I quote from Coplin, Professor of Pathology and Bacteriology, Jefferson Medical College. Neoplasms are subject to two general laws:

"(1.) Muller's Law: The tissue which forms the tumor has its type in a tissue of the organism, either adult or embryonic."

By this is meant that no matter what the cellular elements of a tumor may be such elements occur as normal structures in adult tissue or the tissues of the embryo at some period of its development.

"(2.) Virchow's Law: The cellular elements of a tumor are derived from the pre-existing cells of the organism."

By the acceptance of these two laws we establish that tumors spring from structure once normal, and represent, when fully developed, tissues which were once normal; in other words tumors are *not* importations into our bodies, but like all other morbid processes are perversions of normal cellular activity.

Again, from Ziegler, Professor of Pathology, University of Freiburg, in Breisgan.

"I exclude from domain of tumors all increase of tissue dependent upon the presence of parasites or upon *infection* and so also should the infectious granulation growths which occur in connection with tuberculosis, syphilis, leprosy, etc., be excluded."

Now, this is good authority and we are compelled to give it careful thought ere we discard it.

True, the experiment of which Dr. Curtis speaks at Vienna is quite correct, but was this not simply a transplantation of the cellular element, the real error arising from the fact that he attributes it to infection, rather than dissemination, (1) infiltration, (2) metastasis?

In the case of the unclean instrument, I think it is also possible to transplant an embryonic matrix by this means as above, but such loose evidence as that given could not be accepted.

I consider this a very important question, and think it should attract the attention of the dental as well as the medical profession.

Histology and Oxyphosphate.

By T. D. SHUMWAY, Plymouth, Mass.

Does an oxyphosphate filling in a deep cavity carry danger to the pulp, is a question of fact, rather than a matter of belief.

What constitutes the pulp of a tooth?

Modern investigators in histology agree that a tooth is a living organism. The pulp is not alone the soft pulpy mass inclosed within the pulp chamber, but extends through the dentine where it is joined to the enamel at the periphery by a process not yet fully understood. It requires the whole internal structure of the tooth to complete the pulp.

The amorphous fluid contained within the dentine is a part of the pulp, until it has been converted into a lime salt.

An oxyphosphate filling, by reason of its physical construction, is compatible when placed in contact with living tissue. It stops the process of restoration going on within the tooth, and certain results are sure to follow. Nature rebels against any rude interference with her plans.

If there is sufficient energy within the tooth, the filling will "buck" out, as seen in a porcelain inlay, or else it will dissolve at the point of least resistance, i. e., at the cervical wall.

If Nature cannot overcome this incongruous mass, so at variance with her methods, the process of changing the pulpy fluid into lime salts is arrested, and the life of the whole structure endangered.

In elderly people, the amorphous fluid has changed into a lime salt, so a deep cavity in the tooth of an adult can be filled with an oxyphosphate filling with less danger than in the tooth of a young person.

The mix of an oxyphosphate filling has little to do with the action of the filling upon the pulp. The better the mix, and the more dense the mass, the greater the resistance to be overcome, and this only increases the danger to the pulp.

These remarks seem to me to be a logical conclusion from the facts which science has demonstrated. Histological teaching is confirmed by my clinical experience and observation.

Oxyphosphate Protected with Gutta Percha.

By F. F. DREW, D. D. S., Baltimore, Md.

I have been much interested in the discussion of oxy-phosphate of zinc, and will avail myself of the invitation to subscribers to add contributions to the subject.

Clinical experience has taught me that oxyphosphate of zinc *per se* is not injurious to the dental pulp. On the contrary, I consider it,

when judiciously employed, one of the best materials for filling deep cavities which we have at our command.

No one will deny that glacial phosphoric acid is caustic in its action, but this can be obviated in a large measure by making the mix as stiff as possible so as to have a minimum quantity of free acid in the filling. Furthermore, in very deep cavities, the pulp can be still further protected from contact with the filling by applying a piece of asbestos paper before introducing the oxyphosphate.

There is one great drawback, however, in connection with oxyphosphate of zinc, and that is its tendency to disintegrate at the cervical margin, thus inviting the entrance of food, producing an insidious decay which finally reaches the pulp and produces devitalization, although to all outward appearances the filling seems to be wearing well.

To obviate this difficulty, a layer of gutta percha should be adapted to the cervical border before introducing the oxyphosphate of zinc, and this, to my mind, will eliminate one of the causes of pulp devitalization under oxyphosphate of zinc fillings.

A Few Practical Points.

By DR. C. B. COLEMAN, Poplar Bluff, Mo.

After perforating rubber dam, rub a small quantity of vaseline over surface coming in contact with the teeth. It will greatly facilitate the entrance of rubber between the teeth, and prevent tearing over any sharp points.

In building up fillings to restore the occluso-proximal surface of incisors, it is usually desirable to retain the labial enamel plate; however, in some cases this plate may be so nearly transparent as to show the gold causing an ugly, yellowish discoloration. This may be remedied by placing a piece of paper, cut from the mucilaged portion of a government envelope, just under the plate and building gold out against it.

A piece of ordinary absorbent cotton twice the size of a pea, saturated in sandarach varnish, and placed over the mouth of Steno's duct, with a large piece of bibulous paper to hold the former pellet in position, will check the flow of saliva sufficiently to allow the treatment of superior molar teeth or the insertion of simple fillings.

The smallest size inverted cone bur will make an undercut into which gold will pack without any difficulty.

A little quantity of thick shellac varnish rubbed on the fast pulley of a lathe head will prevent the annoyance of a slipping belt.

The shade of a porcelain tooth can be changed to a darker tint by carefully heating over an alcohol flame for a few minutes.

In repairing rubber work, a little cement made by dissolving ordinary vulcanite rubber in bisulphide of carbon, painted over the surface where union is to take place, will make a more nearly perfect joint.

When not in use, keep your hypodermic syringe filled with water. The needle being removed, insert the small wire previously dipped in glycerine. In this way the packing remains moist and the needle will not rust.

In treating posterior teeth, cut broaches off about one and one-half inches long and roll modeling compound, previously heated, about end. This serves as a convenient handle and can easily be rotated between the thumb and finger.

A great many dentists prefer making their own base plate-wax. The following will make a sheet of uniform thickness:

Take two pieces of ordinary glass, say eight by ten inches. Have both warm, dry and oiled. Place first piece upon a flat surface and at each corner lay a small block of wood the thickness of wax desired. Pour a sufficient quantity of molten wax upon the plate and quickly lay second glass over first, pressing the same until each corner touches the gauge blocks. You will be surprised at the very satisfactory results.

Temperament.

By DR. H. F. HAMILTON, Newport, Vt.

It is one thing to have an idea and quite another thing to be capable of imparting even a small portion of it vividly and stimulatingly to others. It is said of Gladstone that he was able to make a detailed financial report, bristling with statistics, rival even the fascination of a chapter of the Arabian Nights, so marvelously did he light it up with concrete human interest, but his Elijah mantle has fallen on but few Elishas of dentistry, a striking comparison, by the way, which may perhaps be lost to many for lack of due familiarity with certain lines of literature.

The study of temperament is something in which we have all been interested at one time or another, although there is nothing in literature which is explicit regarding this particular branch. This fact is in itself perhaps sufficient to induce us to at least attempt to reach

conclusions through our personal observation, as we all realize that the ability to readily diagnose the different temperaments in connection with the insertion of full dentures is very necessary. By this I mean the ability to distinguish the predominating temperament. We certainly can find nothing upon which to base the fact that any races with which we are acquainted have any predominating temperaments.

The outcome of dental advancement during the last twelve or fifteen years has been scientific precision. Studies whose paramount importance are recognized to-day were neglected formerly, and as a direct result we see the subordination of the purely mechanical branches of our profession, which for years predominated over other studies of equal importance. It is indeed obvious to the layman that there are distinct classes of individuals, both physically and mentally, and it has even been sought to prove that these differences are but the direct results of environment, habits of life, locality, soil, climate and surroundings. As long ago as B. C. 460 to 351 Hippocrates taught that there were four humors in the body, i. e., blood, phlegm, yellow bile and black bile, and our text books abound in theories each fully accounting for the different physical and mental qualities. Temperament, diathesis and idiosyncrasy are frequently confounded and even used synonymously when, as is very evident, they have no common application. Diathesis, we are told, may be inherited or acquired, a predisposition to certain diseases being implied, that is, to a pathological state either inherited or acquired, while temperament implies a physiological condition as a part of the primary construction of the individual, the original organization. Dunglison says briefly, "Characteristics of mind and body, according to which individuals are classed, as sanguine, bilious, lymphatic or nervous," and so, every phase of character, form of feature, every mental endowment may be more or less identified through a discriminating study of temperament. A knowledge of temperament coupled with natural surroundings, age and physical conditions, at times gives us a basis upon which to calculate treatment, particularly in pulp conservation, for we know that satisfactory results are frequently brought about by due consideration of temperamental influences. Enlightenment upon this subject would enable us to bring about a reconciliation, as it were, between men equally conscientious in the defence of their theories and research whose ideas are diversified, and as a result are prone to engage in disputes founded upon the mistaken idea that humanity may be reduced to a sort of level, and that the aspirations of humanity may be forced to act through a single channel. It would also help us to solve many questions outside of the profession now involved in obscurity.

The face depicts the attributes of mind, and more than that the inmost thoughts of the individual. A student of temperament may, having given the teeth, describe the features, or with a given physiognomy could mould the tooth, so marked an analogy is there existing. Were temperaments based solely on complexion, as is generally held, I venture to say that it would be nothing less than unstable equilibrium at which we would place our foundations for a better understanding of the vital peculiarities of the individual. Allowing that there are deviations innumerable from the recognized standard, yet first obtaining a thorough knowledge of this standard, will enable us to more readily recognize these deviations when encountered. Of course no definite rules could be laid down, each case varying as do individuals. Yet observation coupled with experience will enable us to acquire the art of at least approximating a restoration of natural expression. An error is often noticed caused by the endeavor to secure perfection of form by following a rule too closely. Yet this is much more excusable than incidents of lamentably frequent occurrence, where there has to all outward appearances been no rule, unless perhaps it has been to keep the tooth cabinet clean by using up the odds and ends. From an artistic standpoint is there a branch of a profession which is so inartistically performed and so utterly deserving of condemnation as productions of art? A little study and observation perhaps in this line would prove of interest as well as profit, and we can ill afford to ignore it.

Crystal Gold Over Oxyphosphate.

By DR. WM. CASS GRAYSTON, Scarborough, England.

Some few months ago, I was called upon to fill four large shallow approximal cavities in an upper central, lateral and cuspid. The patient was very sensitive and would bear no pain at all. I filled them with phosphate cement as being the only material that appeared likely to stay in place.

In three months, these fillings were considerably worn away, although the bite did not lead me to suppose they were subjected to much stress. I then removed one of the fillings, carefully smeared thin phosphate cement over the interior of the cavity, and at once placed in three

pieces of Watts's crystal gold in such a manner that they would wedge in during condensation.

I was careful to manipulate the gold in such a manner that the surplus cement would be squeezed out at the margins of the cavity and none of it come up through the gold. I then added more gold in the usual way (using hand pressure throughout), and made an apparently satisfactory filling. The other cavities were then treated in the same way.

Examination with the magnifying glass showed no visible line of cement at the margins. I then filled a few other cavities for other patients in the same way.

I have not continued this practice because I fear that the moisture of the cement is likely to penetrate the first layer of gold during its condensation, and prevent perfect cohesion between this and the rest of the filling, notwithstanding that the gold seems to stick and cohere satisfactorily.

**Retaining
Power of
Cement.**

I have every confidence in the retaining properties of cement, of which the following is a good illustration.

About three years ago I undertook to fill a large shallow approximal cavity in an upper bicuspid with gold. Although the retention was doubtful, I thought if I could succeed in packing the gold without "rocking" it would stay in place. I managed to do this, but the patient returned in three weeks with the filling in her purse. I then cemented it in, just as with an inlay, and fixed it by wrapping waxed silk several times around tooth and filling. The silk was removed at a subsequent visit. In nine months this patient returned with the lingual wall of the cavity completely split off, showing a thin line of cement at the juncture of the lingual and axial walls. I merely ground down the projecting edge of enamel and smoothed the lingual surface of the gold. This filling is still in place, in perfect condition, notwithstanding that one of the retaining walls is gone.

I am anxious to know if the packing of gold on soft cement in the manner described produces durable fillings? What I fear is that the gold will come out for want of cohesion. We all know how little it takes to prevent absolute cohesion, and the fact that the pieces stay in place and appear to stick is not altogether reliable.

I am familiar with the well-known method of making a base of cement, pressing a few pieces of gold into it, waiting until the cement

sets, and then building on these partially imbedded pieces as if they were so many retaining points.

This is a different method, and serves a different purpose. Many of your readers must surely have tried this other method (although I do not happen to have heard of it in connection with gold), and I shall be grateful for their experiences. If it has been proved to be reliable, it will, I am sure, be of value to many hard worked, worried dentists.

Failures With Crystal Gold.

By DR. STEWART J. SPENCE, Harriman, Tenn.

However good for the soul an honest confession of failures may be, it must be admitted that it is painfully humiliating. But how delightful to publish abroad our successes! Too oft, I fear, the members of our profession are prone to the weakness of our Tom Hood's huntsman,—

“What he hit is history (his story),

And what he missed is mystery (my story),”

and do not humbly confess their faults one to another, that others may learn thereby. I admit that I would much more enjoy announcing my skill in an article on “Success with Crystal Gold,” than to come forward with a humiliating tale of misplaced affection and relate how “the love of (crystal) gold” misled me.

Yet it was not altogether the gold which misled. I am still disposed to believe that any of the forms of crystal gold will render good service under correct manipulation. It was rather the delusive idea that this soft and sponge-like stuff will cohere well under hand pressure.

About five to eight years ago, my favorite golds were Williams's crystalloid and Steurer's plastic. I then used the automatic mallet altogether (or nearly so). But about four or five years ago I began the frequent use of hand pressure, and employed Sibley's felt and White's crystal mat.

Now, here is the sad fact. During the last year or two I have been amazed to find fillings done by me during these last four or five years fail to an unusual degree, and even to find failures in mouths where other plugs inserted by me from five to eight years ago are still in good condition.

I cannot think this is due to inferiority in the golds used during the later period. I charge the failures chiefly to hand pressure, and to a certain deceptive feature of all crystal gold. That feature is this:

When a piece of foil does not cohere the fact becomes apparent because its ends curl up under the plugger point. But crystal gold acts otherwise; its tendency is to spread under the plugger, and even when it is not really cohering it has a tendency to stay where placed. This fact leads the dentist into overconfidence in its cohesion, and he is deceived into using light pressure and large pellets. The result is, that his plug is not sufficiently welded; not sufficiently driven against cavity walls.

Some fillings of this sort admit moisture and secondary decay, while others break away in small pieces. On a late occasion, while inserting with the automatic mallet (for I was never entirely devoted to hand pressure) a filling in an approximal surface of a lateral incisor, an adjoining filling, which a year previously I had inserted in the central, attracted attention because of a crumbled appearance, and on being picked with an instrument broke up into numerous little lumps, these being evidently the non-cohering pellets. The cavity was dry and without fresh decay, and the filling had been apparently intact when I began the other operation, but some unlucky interference of the plugger broke it up and its golden structure was readily reduced to a shapeless ruin.

It may be urged that as strong a pressure can be made by the hand as by the mallet. True; but is it done? The hand tires towards the end of an operation, and you relax force without knowing it. It requires a strong hand and considerable exertion to condense gold by hand pressure as much as by the mallet. My experience is that I can largely reduce a hand made plug by applying the mallet to it.

Moral: Be not deceived by an apparent cohesion of a crystal gold pellet. Use small and well annealed pieces, and even though you feel assured your hand compressed pellet is cohering well, nevertheless give it a few blows of the mallet, and thus

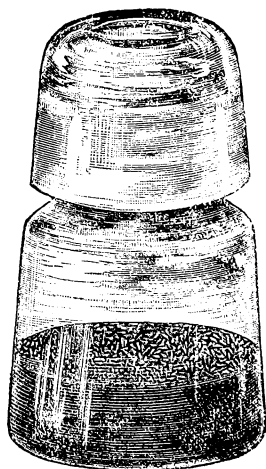
"Make assurance doubly sure,
And take a bond of Fate."

A Simple Sterilizer.

By F. B. SPOONER, D.D.S., Brooklyn, N. Y.

The accompanying illustration shows an office fixture which I trust may find some favor with those who wish a simple method of sterilizing instruments.

It consists of a wide-mouthed bottle of the large size kept by most of the depots. Pumice stone is put into it to the depth of an inch or more. Over this is poured the liquid, which may be of the kind that is most desirable to the user.



The pumice, it will be seen, sinks to the bottom of the vessel, forming a dense sediment. When the instrument is pushed into it, the fine powder mechanically cleanses the same from all adherent matter by friction. I prefer pumice to sand, as it is so fine that it is not apt to dull instruments, and will penetrate the smallest crevice. On the instrument being withdrawn and agitated in the fluid on the surface, all grit is washed away.

It is a useful device for cleansing mirrors, aside from aseptic purposes. Shellac, varnish, or other substances may settle on the glass. By dipping up some of the pumice, the finger can readily cleanse the surface, by friction.

I do not claim for this the immunity that is obtained by boiling instruments, but suggest it as an inexpensive and most convenient article for the dental table. Few dentists will boil their instruments after every operation. Here we have a means to remove the germs by force, and it matters little how they are got rid of, so long as they stay in the bottle, and not on the instruments.





How Should Dental Alloy be Compounded?

By WILLIAM H. TRUMAN, D.D.S., Philadelphia, Pa.

Dr. S. B. Palmer's article entitled, "Needed Review in Textbooks and Teaching," ITEMS OF INTEREST, February, 1900, page 121, invites comments upon two points.

It may have been my stupidity, a stupidity, however, which others have shared, and many still continue to share, that prevented my using with success the method advocated in Dr. Flagg's "Plastics and Plastic Fillings," until in an interview with its author the point I am about to mention was made plain to me.

As soon as I read it, appreciating the value of the practical suggestion contained therein, I essayed to put in practice the method of making dental alloy by reversing the usual routine of first melting the most refractory metal. With the book before me I followed closely the directions, and failed. I tried again and again, but all attempts to dissolve the silver in the molten tin ended in disappointment. During a conversation with Dr. Flagg, I mentioned this fact. He expressed much surprise, and in going over the process emphasized the point which I think nearly all the directions that have been published fail to bring out.

Essential Procedure in Making Alloys.

First, place in the crucible plenty of borax, if the ordinary borax is used, as it increases in bulk very much as the water it contains is given off, again contracting to much less than its original bulk as the temperature of vitreous fusion is reached. It is best

to add a little at a time until not only is the crucible lined with it, but, perfectly fused, and clear and limpid as so much water, there is enough in the crucible to fully cover the quantity of alloy to be made. This will mean about an inch deep in a crucible that would be used for making, say, five ounces. Not until this stage is reached should any metal be placed in the crucible. This is the point to which I refer, and on which I think success largely depends. The tin is now added.

As the temperature of the molten borax is far beyond that required for fusing tin, the tin immediately melts. It is protected from oxidation by the "glass of borax" beneath which it at once sinks, and the more refractory metals such as silver, gold, copper, platinum, etc., may be added. As Dr. Palmer says, they quickly dissolve in and unite with it.

While this union takes place at a temperature below that required for the fusion of the more refractory metals, it is far from correct to say that the union takes place at the temperature of molten tin. It requires a "red heat," say, a temperature of about eight hundred to a thousand degrees Fahrenheit to fuse glass of borax, and more than this to make it as limpid as it should be before the tin is added in making dental alloy. This is double that required for fusing tin, and approaching that required for fusing silver. It is less, however, than would be required if the silver were first fused.

The glass of borax by protecting the tin from oxidation, enables it to sustain unchanged this increase of temperature which would otherwise, by favoring rapid chemical action, so change its character that union with other metals would be impossible. It also prepares the added metals for union with the tin by dissolving from their surfaces any oxidation, just as this same borax, in precisely the same way, facilitates soldering the more refractory metals.

I have seen it stated that dental alloy may be made in an iron ladle, by first fusing in it the tin and then adding the silver. This I have tried, and I have failed.

In no other way than this, following closely that recommended in Dr. Flagg's book, have I been able to get in the cast ingot, so close an approximation of the same weight of metal placed in the crucible. Dr. Flagg, in the fourth edition of "Plastics and Plastic Fillings," 1891, and also in the fifth edition, 1898, page 63, directs that, when the borax is perfectly fused, the commingled metals be poured from a narrow sheet iron scoop into the crucible, and a slight sprinkling of pulverized borax be thrown over them.

A few evenings ago, in this way, I made five ounces of alloy containing sixty-seven per cent silver. After the metals were weighed sepa-

rately, they were collectively placed on the scale and balanced exactly five ounces; the cast ingot weighed just twelve grains less. Part of this exceedingly small loss was due to accidental "sputtering," and part to loss of zinc.

**Loss by
Volatilization
and Otherwise.**

While zinc does not oxidize under the fused borax, it does volatilize. I notice that Dr. Palmer, in the article to which he refers, *International Dental Journal*, May, 1899, page 286, and also in this under review, falls into serious error in confusing the two terms, oxidation and volatilization; or, perhaps, I would be more nearly correct to say, uses the latter when he in all probability means the former. He gives as one of the stated questions asked in the Regents' dental examination representing the New York State Dental Society, modified I presume to avoid repetition, while still embodying the same idea, "In what order should metals be fused in making dental alloy to avoid volatilization?" Zinc and cadmium are, I believe, the only metals used in dental alloy that volatilize to an appreciable extent at the degree of heat attained in making dental alloy by any method, and these are neither consistent nor essentials in dental alloy formulas. It is the oxidation of the low fusing components, mainly the tin, that the method he advocates is designed to avoid. His experiments all point to this.

When the surface of the tin was kept clean, free from oxidation, by the use of flux or hydrochloric acid, he says, the platinum more quickly united with it, much more quickly when the heat was raised to the fusing point of vitrified borax. By the older method there always was more or less loss by oxidation; more or less as the operator was more or less expert, and by general consent this has been charged to the base or low fusing metals of the alloy.

I doubt the correctness of this. I have now and again examined the dross or oxide left in the crucible, and have always found present all the metals placed in it, as nearly as a rough analysis permits one to judge, in the same proportion. I have not been impressed that this loss, where the operation has been conducted with ordinary care and without accident, although it may vary greatly in quantity, is of importance on any but economic grounds. Any change it may make in the relative proportions of the metals entering into the alloy is too insignificant to be appreciated; far less, indeed, than that noticed in competing alloys of different makers, compounded and thoroughly tested by experts especially trained, and provided with the best and most approved instruments of precision, and the latest scientific appliances; so the advertisements read. Excessive heat will, no doubt, seriously injure the alloy. It may become, in workroom parlance, "burned."

This term, while well understood by metal workers, does not always mean the same thing. As applied to dental alloy it seems to be an intimate intermingling of the metals and their oxides in ingot. The alloy loses in proportion as the injury is greater or less to its metallic characteristics; it cuts up differently; it works "dirty" and makes an inferior amalgam.

This will never occur by either method if the operation is carefully performed. Whether the lower heat required by the "New Departure" method conserves any properties in the alloy that the slightly higher heat of the older method dissipates, is an open question. It is also an open question whether the lower heat and the method of the "New Departure" produces as good an alloy as does the older one. It is a significant fact that the reputation of amalgam as a tooth preserver was made and firmly fixed by alloys made by the older methods. It is also, I think, a fact that similar alloys, such as bronzes, brass, etc., alloys made commercially where trade competition demands the highest qualities and the lowest cost, where experience and skill have been taxed to the utmost to attain these objects, are universally made by first fusing the most refractory components except, perhaps, in certain cases where chemical affinities are especially marked. I was so impressed when a few years ago I studied the matter.

**Affinity of
Platinum
for Tin.**

I now come to the second point. Is Dr. Palmer's criticism of the answers returned to this question a just one? In the first place, if the question was put as he gives it (he gives it practically the same in both articles), it is incorrectly propounded.

Leaving out cadmium and zinc, there are, as I have said before, no metals used in dental alloys that are at all liable to be volatilized, and those that are would be as quickly dissipated by the new method as by the old. Are the answers he pronounces correct, really correct? I contend that they are not. The relative fusing points, whether we start with the highest or the lowest, are no guide to the order in which the metals should be added. Platinum, according to his dicta, should be added last. Its chemical relation to the metals, as his experiments prove, calls for its immediately following the tin, as it has for this metal a far greater affinity than for any others. Thomas Fletcher, of England, contends very earnestly that the platinum should be added to the tin alone before the tin has been alloyed with any other metal. In no other way, he asserts, can platinum be utilized in a dental alloy. If first alloyed with the other metals, it becomes inert.

In proof of this, we may use tin as a solder, using no greater heat

than required to properly fuse it, upon very thin sheets of gold, copper, silver, brass, etc. It is a common workshop operation in many commercial pursuits, and is done with impunity. On account of its marked affinity for tin, far greater care is required when platinum is in question. It required but a very few seconds for his very thin platinum plate to disappear in the highly heated molten tin, while time and again in alloying gold and platinum, when the contents of the crucible have seemed to be perfectly fused, after pouring I have found nearly all the platinum at the bottom of the crucible. That will never happen with tin, if the contents of the crucible have been raised to a heat sufficiently high for the vitreous fusion of borax, unless the quantity of platinum is excessively large.

The assertion that the various metals are readily and quickly dissolved in the molten tin, while perfectly correct, is misleading. While the fusing point of an alloy is not always that of the mean of its components, it usually bears a close relation to it, and in practice the heat required to make dental alloy by the "New Departure" method is greater or less as the high or the low fusing metals predominate. I have added to tin, and the last portion was as quickly taken up as the first, more than eighty per cent. of silver, but to do so I was obliged, in order to keep the contents of the crucible in a state of fusion, to so increase the heat that towards the last it was but little below that required for silver alone. On the other hand, I have made an alloy of silver and tin in a test tube, using glycerine or paraffine to protect the tin from oxidation. The union of the two metals was as perfect in the last case as it was in the first, but of course the quantity of silver taken up was small; I think, about ten per cent.

Dr. Palmer tells but half the story. He leads one to infer that a high grade silver tin alloy can be made at a low heat. The heat must be above that required for the fusion of the alloy. By the new method, quite as much care is needed to secure a thorough union of the metals as is required to avoid, when using the old, its attendant risks. The fact which he relates, that although this method has been before the profession a score of years, it has not as yet superseded the old one in the textbooks; that it is not as yet taught in all the colleges as the only correct way of making dental alloy is proof sufficient that it has not as yet met the general approval of the profession.

Now let me ask, Is this question, are questions

Examination

Question

Criticised.

such as this mere catch question, proper ones for a dental examination? Is a dental examiner just in demanding from a candidate an answer conforming to his own personal bias when the question asked is one upon which the profession is divided? Is he just in pronouncing an

answer incorrect when it is in accord with the teaching of the accepted textbooks, and the practice of the profession? Is the question, as he puts it, properly worded?

There is no doubt at all but that excellent dental alloy is made by both methods. The competency of a candidate to practice dentistry is not involved in his accepting or rejecting the new departure dicta. Competent practitioners are found among its advocates and its opponents; among those who fuse the tin first and those who add it last, as well as among those who, as Dr. Flagg directs, commingle and dump them all in the crucible at the same time.

Porcelain in Crown Work.

By DR. J. B. TUFTS, San Francisco, Cal.

Case 1. Patient presented with facing broken from an unbanded Richmond crown on the right upper lateral incisor root. The pin being firmly anchored in the root with cement, I decided to attach a crown to the backing *in situ*.



Fig. 1



Fig. 2



Fig. 3

After grinding the backing a little on the sides and shortening the incisive edge (Fig. 1) a 30 g. platinum cap or shell was made closely enveloping the backing and the end of the root, which, as I have said, was not banded. (Fig. 2.) A porcelain facing was concaved thin, to cover the face of the platinum shell, covering its cervico-labial aspect and curving slightly over the approximal surfaces. The concavity of the facing was filled with moistened porcelain body and placed in proper position on the shell in the mouth. The water was evaporated from the body with hot air attaching the facing to the shell. They were removed carefully and baked, afterward the crevices were filled and the sides contoured with body.

(Fig. 3I shows completed crown.) This is, of course, nothing more nor less than a shell crown. It is its applicability to cases of this sort to which I desire to call attention.

Case 2. Left lower first molar, very short bite, the root being ground nearly to the gum line and covered with a gold cap. The patient having flexible lips, the cap was visible at times and something less conspicuous was desired. The cap



was removed; the root, which was filled with amalgam, ground down a trifle more and a platinum cap made to cover the root and extend slightly under the gum. The cap was placed in position on the root and three small holes drilled through the top of the cap into the amalgam. Three platinum pins were inserted into the pits, with their upper ends projecting above the top of the cap. (Fig. 4.) Porcelain paste was smeared about the pins and the adjacent top, dried, the crown removed and the pins baked fast to this, their correct position. A very short bite facing of the proper color was procured and ground to rest on the buccal rim of the cap projecting slightly over the edge. (Fig. 5.) The cap was placed on the root, the facing secured in position with the porcelain paste, the whole removed and baked. The crown was then built up and contoured to a perfect occlusion, the buccal portion of the band being covered also. Sulci were then cut on the occlusal surface, which, with the well defined cusps, approximated Nature more closely than could be done with a gold crown. (Fig. 6.) The completed crown was then cemented to the root.

Mechanical Dentistry.

By Dr. E. P. HOLMES, Stoughton, Mass.

At a meeting of a certain dental society held at Young's Hotel, Boston, recently, the principal subject under discussion was Mechanical Dentistry. The attempt to bolster up this so-called "branch of dental science" and to place it in a more favorable light was so evident, that I would like to state a few reasons why, in my mind, it has become necessary to do so.

I can say, without the least fear of contradiction, that when I was a dental student not one of my fellow students took the interest in mechanical dentistry that he showed in the operative department. Further, I firmly believe that there was not one of us who would not gladly have shortened the time for mechanical work one-half and have added this time to that devoted to operating.

Again, fifty per cent of my classmates would have dropped plate work entirely had the school allowed them to do so.

What was true of the dental student of my day is equally true of the dental student of today, and why? Example is stronger than precept. When the student looks about him and sees dentists on every hand turning over their mechanical, more particularly their plate work, to an "assistant," or to the dental laboratories, it is very natural that he should think that mechanical dentistry, even though it might be desirable to round out his dental education, is of comparatively little importance, and surely not worth any great or long continued effort on his part. If the student has spent some time as an "assistant" in a dentist's office, before entering the dental school, as I did, where, in a back room, scantily furnished, called a "laboratory," he has labored eight hours a day for a year, surrounded by plates new and old, models and plaster, filling his lungs with the business-like aroma from the vulcanizers, and drinking in the simple beauties of unadorned walls and a smoky ceiling, he would naturally have one eye, at least, closed to this very interesting branch of dental science.

No matter whether the student begins his dental education in some dentist's office or at a dental school, all the way through his course of study and work, he is brought face to face with the truth that mechanical dentistry is an uncongenial, undesirable branch of dental science, and that its popularity with any particular dentist is in inverse ratio to the so-called success or standing of that dentist. For a dentist standing high in his profession, with his face expressive of all the earnestness of what would seem to be his honest conviction, to extol the merits of mechanical den-

tristry, and in the same breath to admit that because of long neglect of this same branch of dentistry he had not sufficient manipulative skill to do the mechanical work expected of the student, is, it seems to me, the height of inconsistency, and the dental student cannot fail to comprehend its significance. Just so long as the dentists show their neglect of and lack of interest in mechanical dentistry, just so long will the students pattern after them, and no amount of pleading or lauding will drag mechanical dentistry from the low level to which the dentists themselves have consigned it. "Men are only boys grown tall," or, to change the saying to suit the occasion, dentists are only students grown older. There is no metamorphosis whereby the student upon completing his course at the dental school bursts butterfly-like from his cocoon with a new body, new ideas and new aspirations; he is the same student as yesterday, with this difference—his work is now elective. He is no longer held to this or that method or course by an instructor, or by the requirements of his Alma Mater, and that part or branch of his profession which he found not to his liking he may now drop if he chooses. If, as a student, the dentist found that branch of mechanical dentistry designated as "plate work" distasteful to him, he will surely find it no less objectionable now, and will do as little of it, with his own hands, as his circumstances will permit. A classmate of the writer, upon opening his office, had put upon his shingle: "No Extracting or Plate Work Done Here." Few dentists at the start are so situated, financially, that they can afford to turn away plate work, however much they would like to do so, as by so doing they would lose much other work that is likely to accompany it.

I am aware of the fact that there are dentists
The Dentist. who think mechanical dentistry beneath them, that it is not in keeping with that dignity with which, like a halo, they fancy themselves enveloped. I have no sympathy with such, nor with a man of any calling or profession who looks upon honest toil as belittling or beneath him. "The man with the hoe" may be on a very low level of intelligence compared with some others of God's creatures, and an object of pity, but only because of the false state of society and the cruel wrongs and injustice inflicted upon him by others born into a position whereby they could enslave his mind as well as his body, and not because of his employment.

The most important factor in turning the dentist from mechanical to operative dentistry is that the latter is much more remunerative. No dentist whose time is fully occupied in "operating" can afford to do his mechanical work himself, but by turning it over to an "assistant" or to one of the "dental laboratories" he can do this work at a very fair margin of profit.

Then, too, the dentist does not experience that degree of satisfaction in mechanical that he does in operative dentistry—particularly in plate work. We all know that it is no small matter to make a set of artificial teeth that will, in appearance alone, not only satisfy the patient who is to wear them, but all her sisters, cousins, aunts and neighbors even, as well.

A patient of mine, a married woman of about forty-five years of age, threatened to bring suit against me during my first year's practice, because in making her an upper denture I had not restored her mouth to its "natural" appearance, which she readily proved by exhibiting a picture of herself taken at the age of sixteen. Of course this is a rather exceptional case, but it illustrates the tendency of those people who need artificial teeth to demand more than can reasonably be expected of the dentist, and the dentist, knowing this, rather dreads the ordeal that he may be called upon to pass through when he inserts an artificial denture.

Again, the dentist who spends most of his working hours at the chair must keep his hands in a presentable condition, and this he can not do if he does his mechanical work himself. Then, too, the handling of plaster, flasks, coarse files and sandpaper, and the numerous other instruments used in mechanical dentistry, destroys that delicacy of touch which is so necessary to the dentist who would be at his best at the operating chair. To sum it all up, the average dentist finds mechanical dentistry incompatible with the higher branches of his profession in which it should be his aim to perfect himself to the extent of his ability.

<p>From Outside the Ranks.</p>	<p>"Why is it," I am asked, "that you, as a doctor of dental medicine, think that it devolves upon men of your profession to supply artificial substitutes for those organs which it is your business, so far as possible, to keep in a healthy condition?" Here is the</p>
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question and I pass it along.

I hold that it is no more a part of the dentist's work to make artificial substitutes for the teeth that he extracts than it is a part of the surgeon's duty to manufacture artificial legs or arms to supply the places of those members that he has amputated; or of the oculist to make glass eyes to be substituted for such of those organs as he finds it necessary to remove.

It is this matter of mechanical dentistry that has been a drag upon dentistry as a profession from its conception. From the beginning it has been found easier to supply artificial dentures than to cure the diseases of the natural teeth, or to put them in a healthy and comfortable condition. For years the ranks of the dentists received a steady influx of jewelers and other workers in precious metals, and even many blacksmiths loaded up their anvils with gunpowder and fired a salute to celebrate their light-

ning change act from the army of mechanics to the rank and file of the profession. This is not the worst. The majority of the jewelers and blacksmiths who became dentists (?) were at least good mechanics, and their work proved their mechanical skill; but with the introduction of vulcanite the ranks of the dentists were again swelled, and this time were welcomed (?) into the profession, farmers, merchants and sailors. In fact, any man who could support himself while he spent three months or more in some dentist's back room, arose, phoenix-like, from the flame of the vulcanizer—a dentist.

It is true that the State dental laws now exert a controlling influence upon the blacksmith and the farmer who would become dentists, but with the foregoing condition of things in full blast less than a decade and a half ago, what hope have we that the professional will rise above the mechanical, for decades to come?

Makers of artificial dentures there must always be, but until we separate the mechanical from the professional and consign it to the place where it belongs we shall never—as professional men—reach that eminence which it is within our power to attain, or, in other words, succeed in placing dentistry, as a profession, on a level with that of medicine.





Infantile Scurvy, with Report of a Case.

By Dr. E. H. BABCOCK, Brooklyn, N. Y.

Read before Second District Dental Society, December, 1899.

Some writers use the Latin form, "*Scorbutus Infantilis*," while others use the English.

In presenting this paper to the members of the Second District Dental Society, there is neither thought nor desire that the dental surgeon shall in any way encroach upon the domain of the physician.

Two reasons influenced me in the selection of this subject: The first was that, owing to the appearance in the mouth of one of the earliest and diagnostic symptoms, the dentist might often be the first to recognize the trouble, thereby saving the physician and parent much anxiety, and the little patient much suffering. The second was that, owing to the comparatively few cases reported, the subject is less well written up, and consequently of greater interest, especially so to the writer as he has happened to meet with a case that differs materially from most of the cases already reported.

Billings, in the National Medical Dictionary, defines scurvy as follows: "A disease characterized by anæmia, general depression, hemorrhage from mucous surfaces, a purpuric eruption, and inflammation of the gums with loosening of the teeth."

Dr. W. Gilman Thompson, in an article on scurvy, in The "American System of Practical Medicine," says: "Improper diet is, unquestionably, the exciting cause of scurvy in nearly all, if not all, cases; but in attempting to define wherein the dietetic error consists, one is met by very conflicting facts, and the conclusion must be reached that neither the presence nor absence of any one food or any special class of foods is invariably productive of scurvy. Among the chief dietetic errors which have been

believed to produce it are: Excess of salt meat and fish, exclusive meat diet, tainted food, badly cooked food, too much fat, lack of fresh vegetables and fruit, a too monotonous diet, and, in infants, absence of fresh milk."

This disease is found among the children of the rich as well as those of the poor, but the singular and unusual fact is that it is more prevalent among the former than the latter. This is easily understood when we consider how differently the children of the extremes of society are fed. The poor child is generally suckled by its mother and, whether suckled or bottled fed, it is taken to the general table and eats what the older members of the family have, thus getting sufficient variety to counteract any lack in the milk supply. The child of the rich is suckled, if suckled at all, for only a short time, and then handed over to a nurse to be bottle fed.

Up to 1883 this trouble had been diagnosed as "acute rickets." At that time two English physicians while making post-mortem examinations on the bodies of two fatal cases, discovered the true nature of the trouble and decided that the disease was scurvy, not rickets.

Wm. Perry Northrup, M. D., in the "American Text Book of the Diseases of Children," states that up to 1894, there had been but eleven cases reported in American practice.

The first record from a dental source that I have been able to find is a notice in *The Dental Cosmos* (April, 1895), of a chemical lecture delivered at the Jefferson Medical College, by Dr. Edwin E. Graham, who described a typical case of infantile scurvy.

Edward C. Kirk, D. D. S., March 12, 1895, read before the First District Dental Society a paper entitled, "Two Cases of Infantile Scorbutus."

November 12, 1895, F. Milton Smith reported a case to the same society.

In ITEMS OF INTEREST for 1897, Joseph Boylston, D. D. S., has a report of a case.

At a meeting of the New York Institute of Stomatology, held March 2, 1897, (reported in *International Dental Journal*, July, 1897), F. Milton Smith, D. D. S., reported two cases. At the same meeting, C. B. Parker, D. D. S., gave a short report of a case occurring in his own family.

The *Brooklyn Medical Journal*, May, 1897, prints an article by A. H. Bogart, M. D., entitled, "Infantile Scorbutus; A Clinical Report of Two Cases."

The case of which I shall give a report at the end of this paper occurred in January, 1899.

The above list of cases is the result of a fairly careful search through the leading dental journals and some of the medical. There has been no

attempt to give all the cases reported by writers on the diseases of children; the above are given to show that the reported cases are not numerous.

It is my opinion that this trouble will become more common, owing to the fact that many of the mothers of today are not strong enough to suckle their children; while many of those who could, will not be bothered or are too busy with social affairs to give the child the required time and attention. The child, if strong and healthy, is given cow's milk and may thrive; but, if its digestion be poor, it is put on some one of the proprietary foods and is likely to be attacked with scurvy.

It does not seem quite fair to condemn all the proprietary foods. They are mostly predigested and are given to children that have weak digestion, and who would die if just such foods were not obtainable. These foods have their limitations, and when a child reaches a certain age, differing with each individual, supplementary food should be given.

Dr. Wm. P. Northrup says: "Infantile scurvy is rare among nursing infants. In the first case in this country, the child had been nursed by a woman who suckled her own child as well. Her child thrived; the foster child developed scurvy." "One case is recorded by Southgate of scurvy in a nursling; analysis showed the milk to be rich in quality. This case is unique and unexplainable."

First age: occurs usually between six months and two years. Second history: generally a record of improper feeding. Third: Swollen and painful extremities. Fourth: stringy, purple gums, bleeding easily. Where teeth are not erupted, the gum lesions are absent. Fifth: in severe cases, eyelids become swollen, black and have appearance of "black eye."

Hemorrhage beneath the periosteum is the typical feature. The femur and tibia are the bones most frequently affected. The fibula, but rarely. The shaft of the bone near its epiphysis is the point of most tenderness. The joints are usually normal.

Deep seated muscles are frequently the site of extensive extravasations of blood. Superficial muscles are thin and pale, owing to the serious infiltration.

"Infantile scurvy may be mistaken for rheumatism or paralysis; less frequently for rickets, otitis and purpura."

Prognosis is good if recognized early. Recovery is rapid under proper treatment. Death has happened where trouble was unrecognized.

Lesions of rickets are found in the bones and are permanent; while those of scurvy are evidently in the blood, and rapidly disappear under treatment. Rickets predisposes to scurvy.

General Treatment. Stop the use of all proprietary foods and condensed milk. Give fresh cow's milk, beef juice, orange juice or other fresh fruit. If over six months, add sieved baked potato to its food. There is considerable difference of opinion as to whether boiling of the food is injurious or not. As the child improves, less of the milk or other antiscorbutic food will be digested. Later, iron, cod liver oil or other tonics may be given.

Local Treatment. Gums: avoid use of nitrate of silver or other irritant. Diluted orange juice, to which glycerine has been added, is recommended as an application.

Limbs: cold compresses, if there be much pain and swelling. Avoid massage or other friction. Limbs should be moved with great care, as there is danger, in severe cases, of spontaneous fracture of the shafts of the long bones.

Scorbutic children should be protected from sudden changes of temperature, as they are specially liable to contract bronchitis and pneumonia.

The following is a brief history of the case I wish to report:

**History
of a Case
in Practice.**

Last January, the mother of a little ten months' old child asked me to look at the child's gums. She had four upper and four lower incisors. The gums above the upper incisors were swollen and of a deep purplish color, as though they had been badly bruised. Gums around lower teeth were unaffected. A mouth wash rapidly cleared up this trouble.

The child had never been very strong, but was well and plump.

About a week after this, one night she cried for a long time, and when taken up her feet and hands were found icy cold; the hands seemed much swollen. Through carelessness, the furnace fire had been allowed to become very low and the temperature of her room fell to between fifty and forty degrees Fahrenheit.

Her hands were bathed in cold water, then dried and very gently rubbed to bring back the warmth. The following day she seemed better, but cried out if touched. Any attempt to straighten out her legs, which she kept drawn up toward her abdomen, would cause a cry of pain.

A physician friend to whom I mentioned the case said, from my description, he judged it was rheumatism. I did not agree with him, giving as my reasons the facts of no rheumatic history in the family, child under one year of age, and surroundings the best.

Afterward I asked Henry Wallace, M. D., to see her and, after a careful examination, he made the diagnosis of "infantile scurvy." He suggested meat juice, orange juice, change from sterilized milk to milk heated

only to about one hundred and sixty degrees. The child improved rapidly. Her teeth were erupted on time and with but little disturbance to her health or temper. She was backward in the matter of walking and talking. At the present time, almost a year later, she talks some and walks nicely alone.

What deceived me in the matter of making a diagnosis were the facts that she was plump and seemingly well; she was fed on milk and allowed to have bread crusts; her home was in a suburb of the city, being well lighted, ventilated and heated; the gum trouble was limited to the upper jaw and disappeared upon the application of an alkaline mouth wash.

Her food consisted of Borden's milk (not condensed), two parts; water, one part; six tablespoonfuls of cream; to which was added a measured amount of Fairchild and Foster's Peptogenic Milk Powder. The whole was stirred, and being heated for ten minutes was removed from the stove just as it began to boil.

I shall close my paper by giving a list of some of
Authorities. which is fundamental to it all, and that is, the
 relation to disease of the teeth. The fact is,
 I may have failed to give or have not sufficiently amplified.

Keating's "Cyclopædia of the Diseases of Children."

Louis Storr's "American Text Book of the Diseases of Children."

L. Emmett Holt's "Diseases of Infancy and Childhood."

Loomis and Thompson's "American System of Practice of Medicine."

J. Lewis Smith's "Diseases of Children."

Billing's "National Medical Dictionary."

The Dental Cosmos.

Dental Digest.

International Dental Journal.

ITEMS OF INTEREST.

Independent Practitioner.

And other miscellaneous articles.



Second District Dental Society.

December Meeting.

A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, December 11, 1899, at the residence of Dr. R. C. Brewster, No. 126 Lefferts Place, Brooklyn. The president, Dr. Kræmer, occupied the chair.

The secretary read a communication addressed to the Society with reference to the bill to be presented to the Legislature, as to the enforcement of payment of household bills; also the resolution of the Kings County Medical Society in regard to the same.

As a member of the Kings County Medical Society, I have been asked to present this matter. Last week, in New York, a temporary organization was effected; a meeting for a permanent one will be held at 401 Bridge street, on December 26. This society is asked to appoint a committee of three or more, with power to name a vice-president, as every organization will be represented by one vice-president. I have been asked to communicate with every dental society in this state. This I will do, but the time is too short for them to take action, as they propose to carry this bill to the Legislature in the early part of January. This Massachusetts bill, as I am told, has been in effect about one year, and they had no difficulty getting it through the Legislature, although it is said we will meet with a great deal of trouble in this state. It is said it works very well, and if a physician or dentist has difficulty in getting his bill paid, he simply mails one of these extracts to the patient, which usually has the desired effect. Dr. Butler is with us, and he could present it to the Buffalo dentists, and Dr. Ames, president of the State Society, could present it to the Albany dentists. It is supposed to cost about \$5,000 to get this through, so the assessment *pro rata* will be remarkably small. The med-

ical and dental professions are simply asked to co-operate. I bring this up as a favor to the Kings County Medical Society. I have nothing to do with it personally.

A motion was made and carried that a committee of three or more be appointed to take action on this bill.

Dr. E. Howard Babcock read a paper on the subject of "Infantile Scurvy," with report of a case.

Discussion.

There was one feature which the Doctor did not mention, which is always found. No matter how purple the gums are, the palate and the mucous membranes of the cheek are always anæmic.

I would like to know where a dentist would be called upon to treat a case like this. I think it is in the physician's province. Of course, if you are a medical graduate, and a dentist at the same time, you might take it up; but as a plain, common D. D. S., practicing the profession from a dental standpoint alone, I think very few of us would take charge of a case of scurvy or rickets, and take the responsibility of treating it.

I think Dr. Babcock said in his paper that the case came to him for trouble with the gums. It might come to any dentist, and it would be a good thing to be able to recognize it.

It would be useful to recognize a case of that kind. I have a little boy patient, in whose case the doctor had diagnosed hip joint disease, and the child laid in bed for a long time with a weight to his leg. His physician sent for me to see what was the matter with his mouth, and I found the gums in the condition described. I prescribed a mouth wash. The child was taken to the country, and the physician there diagnosed the trouble as scurvy.

Only about three weeks ago, there was a friend of mine in my chair, and she spoke of her little child being very wakeful at night. She said she had been to a physician about it, and he could discover nothing wrong with the child. The physician had objected to giving her crusts of bread and the like, for fear the starchy food would not be digested. I questioned her as to the age of the child, and the food she was receiving, and taking all into consideration, I thought possibly it was the beginning of this condi-

tion. I said I did not wish her to quote me, but advised her to go to her family physician, and in a quiet way ask him if the child at that age should not have a change in diet. I think that is the proper stand for the dentist to take in those matters.

Dr. Houghton asked the question how in the world dentists would be expected to treat a case of scorbutus or richitis. The only reason, and it is a good one, for bringing this before a society of this kind, is the fact that one of the principal symptoms is to be found in the mouth. I think it was two or three years ago that Dr. Northrup read a paper upon this subject before one of the New York societies. I heard the paper with a great deal of interest, because the symptoms he explained were so easily found in the mouth, and so apt to come under the notice of the dentist. I had never seen one of these cases in my experience, and I never expected to see one, but those strange things do happen sometimes, and within three months, a case came to my notice. The mother spoke of the case in the first place without bringing the child to me, but simply explained some of the symptoms. She stated that her family physician had been treating the child for nearly three months. At first he thought it was stomach trouble, and afterwards he declared it was rheumatism. She said he was very faithful in regard to the matter, and had spent hours in watching the child naked upon the floor to see every symptom of pain that might help him in determining what the trouble was. Of course, I had very recently heard this paper from Dr. Northrup, and I asked the mother if she noticed any symptoms in the mouth, and said if so I would like to see the child. She had not noticed anything in the mouth, but she had noticed on its body little places that appeared to be like bruises. She brought the child to me, and I noticed the symptoms in the mouth which Dr. Northrup had described. I told her I thought the child was troubled with infantile scorbutus, and she should consult some one who was a specialist in children's diseases, and recommended her to Dr. Northrup. She asked me if I knew anything about the probable treatment, and I said he would very likely recommend orange juice as the main remedy. She followed my advice, and I think she told me his recommendation was exactly what I told her. Within a week the child was perceptibly improved, and in a month or six weeks there was scarcely a morbid symptom remaining. Not three months after that I saw another case very similar to this one, and I made the same recommendation. The same course was taken, and the child recovered. In telling of one of these cases to a friend of mine, he remarked with tears in his eyes that he believed his child had died from that very disease, and that the physician had for three months treated it for rheumatism.

Children seem to be affected just as we are in adult life by faulty assimilation and poor nutrition.

Dr. John I. Hart. It is not so much the change of food that they lack, but it is often due to the unfortunate overfeeding of children to such an extent that the whole digestive tract is upset, and they are unable to assimilate the food which is given them. In almost every case where children are referred to the general practitioner for treatment, in changing the food he probably reduces the quantity, and in that way the benefit is achieved. The manifestations which we come across are lack of nutrition and lack of development in the bones, which we term rickets, or of the soft tissues, which we term scurvy. The diseased mucous membrane of the buccal cavity is frequently called to our notice for treatment. Sometimes in the infirmary, when the children are too young to intelligently use a wash or a gargle, we have prescribed for them a wash that the mother or nurse applies on a soft bit of linen:

Hydronaphthol, 3 grains.

Bicarbonate of soda, 1 grain.

Distilled water, 4 ounces.

Frequently we have made use of the iodide of starch, dusting that over the diseased mucous membrane. I think we have had more benefit from the iodide of starch, which I think is 95 per cent starch and 5 per cent iodine, than any other medicament which we have employed in the mouth. Another remedy which we use is 8 grains of chloride of potash to 10 ounces of water.

The overfeeding of the infant, to my mind, is much more deleterious to its general health than the use of the prepared foods. I think very many of the so-called prepared or digested foods will agree thoroughly well with the infant, if given to it in sufficiently small quantities.

Dr. Butler, While I can say nothing which will add to the value of the paper and the discussions, I would like to give expression to one or two ideas. I have a feeling that the time has come when we, as a profession, ought to shake off that excessive modesty which has prevailed among us for so many years, and assume the position which by right belongs to us as stomatologists. The consideration and treatment of this disease, which we have before us to-night, very properly belongs to our field, and it is to me a great satisfaction that general medicine is beginning to recognize that fact—in other words, that so many medical practitioners are coming to the stomatologists or dentists for advice in regard to those diseases which manifest themselves in the mouth. I have been impressed in the last two or three years with the fact that the general practitioner is beginning to realize more and more the value of the condi-

tions of the mouth, or the appearance of the mouth, in diagnosis. There are many systemic diseases that manifest themselves in the oral cavity, and by a strict observance of those symptoms, the physician is enabled to arrive at a more nearly correct diagnosis than formerly, when he ignored oral symptoms. This is especially true in regard to the disease which we are now considering, and I cannot agree with my friend who felt that it is not within the province of the dentist. I believe it is our duty, our privilege and our province as well. These symptoms manifest themselves originally in the oral cavity, and we as practising dentists should be able to recognize them and diagnose properly their cause. Another thought which underlies this subject, to my mind, is the train of difficulties leading up to this disease. I am impressed with the idea that, after all, it is a derangement of the nervous functions of the child. You know that medical men are coming to appreciate more and more the importance which the nervous system plays in all these disorders. Another thing which impresses me is the fact that the difficulty manifests itself just at the beginning of the presentation of the primary dentition. I think none of us can appreciate fully the influence which the primary dentition plays as a cause in all these troubles. For myself, I believe that it is chargeable with very much that has heretofore been attributed to faulty digestion, improper feeding and other excuses along that line. The fact is that the reflex nervous irritations growing out of the primary dentition are sufficient in many cases to produce almost any disorder of this character. I believe such reflexes cause the faulty digestion and assimilation, and that strict attention to that fact will often, if seen and understood early enough, lead to a complete correction of the condition.

I am glad to know that our profession is giving more attention to disorders of this class, and it is gratifying to see that what have heretofore been commonly considered dividing lines between the general practitioner and the dentist, are being broken down. In other words, that we are going into what has been regarded as their field, and they are coming into ours, and we are both being benefited by the interchange of experience and observations. It is this which gives me the greatest encouragement when I consider the position and standing of our profession, because I believe that the time is coming when the general practitioner will accord to us the position which by right belongs to us, and which we in our excessive modesty heretofore have been loath to assume.

Dr. Ames,
Albany.

This subject is a very interesting one, and I think that Dr. Hart struck the keynote in his remarks as to the overfeeding and the faulty assimilation; likewise Dr. Butler, in his remarks on dentition. It appears that those two conditions of systemic disturbance go hand in hand.

Either one might be considered sufficient to produce infantile scorbutus; but I believe the two together will surely form the basal condition. For the encouragement of the young members, as I see such an array present to-night, I will say that in my practice of thirty-three years, I have never had a case of infantile scorbutus presented to me for treatment.

Dr. F. T. Van Woert then spoke on the subject of

“Some Practical Points.”

When your committee called on me for something this evening, I felt very much like refusing, because I have been before you so many times that I begin to feel like a back number. After consenting, they asked me what the subject would be, and I said I did not know, as I would have to get something new. To get something new for the Second District Society is considerable of a task, especially for me; but in thinking the matter over, I concluded that some of the work which I have been doing since last June in the Cumberland Street Hospital, was entirely new to the dentists, and as I have some very good records of the cases and their results, the presentation of that would be as interesting as anything I could find.

In the first place, it does not come within the province of all dentists to handle very much surgery. It has been my good fortune, or bad fortune, to have a great deal of it in the past twenty years, and particularly in the last few months.

Fractures of the Inferior Maxilla.	Since the middle of June, I have had no less than nine cases of fractures of the inferior maxilla, and in only one instance was there a simple fracture. One case was a quadruple fracture, and another a compound, which was examined by several of the gentlemen present, who were also present when I performed the operation.
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men present, who were also present when I performed the operation. In the large percentage of cases, where necrosis is developed, it is largely due to the presence of dead teeth or bad roots in the immediate vicinity of the fracture, or even in parts of the mouth where later they become a source of irritation.

The first point in making an examination is to see the condition of the mouth before considering the fracture. After having found that it is necessary to remove several, or as many as there are, of the decayed roots or dead teeth in the immediate vicinity of the fracture, I have always resorted to an anæsthetic, and when in private practice, call upon some medical practitioner to take charge of that portion of the operation. While the patient is under the influence of the anæsthetic, I take my impression, and make my diagnosis of the fracture, and its complications, after hav-

ing put the mouth in as hygienic a condition as possible. Following that is the placing of the splint, and the adaptation of the fragments of fractured bone, and its apposition, and in many cases that is not as easy as it may seem.

One case in my recent experience was that of a conductor on the Greene Avenue line. During the strike he was deliberately thrown from his car. He was supposed to have a simple fracture. I took an impression, prepared a splint, and placed it in his mouth. Five or six hours afterwards, the house physician called me on the telephone, and said the jaw was out. I said it could not be. It was so, however, and I anæsthetized him again. We found that there was a breaking away of the condyloid socket, so that the long fragment of the fracture, when pressed upon by the bandage, pushed the bone out of place. The jaw had to be wired. This brings in the most important part of my discourse, that of placing wire sutures without lacerating the face or without opening the face. It has been done in the past a great many times, but I had never seen the operation until I did it myself. In all cases where I have wired, I have done so from the inside, and have wired the fragments to the splint, instead of to each other. In the case that I have just described, immediately after the recovery of the patient from the anæsthetic, he announced himself as perfectly comfortable. Prior to that, he had suffered pain during the entire time the bandage and splint were in position. After a few weeks, he left the hospital perfectly well. The case as I have given it to you, was of a man named John Noonan, admitted July 18, 1899, and discharged August 23, 1899.

I would specially report the case of a man named Greene, who entered the hospital October 7, upon application to me over the telephone from another hospital in the city, where he had been taken five days prior. Upon examination, I found a compound fracture of the inferior maxilla, the entire section involving the incisors and one cuspid removed, the face badly battered, the nose crushed back into the face, and the lower lip cut from the angle to below the base of the jaw itself. When he was put on the table, and the bandages removed, we found a most frightful condition of filth. Superficial stitches had been placed in the opening of the lip, extending not more than one-sixteenth of an inch below the surface, the flap gaping and reeking with all sorts of filth. I cleaned up the case as best I could, removed the spiculæ of bone, took impressions of the lower jaw, and prepared splints which would hold the fragments in something like a proper position for a normal occlusion. This splint was to have been applied at the operation when Dr. Smith and Dr. Hutchinson were present, but we nearly lost the patient because of defective respiration. I had to desist that night, and the splint remained about three or four weeks, when

it was removed, and we found considerable necrosis and no union, because there was nothing to unite but the soft tissues. On Tuesday night, at a meeting of the medical and surgical staff, I had the case presented, inasmuch as the consultation I had called in connection with it was not entirely satisfactory, because so few were there; in every instance the surgeons and medical men there declared it a perfect success, so far as it had gone. The question as to what the outcome will be, is to me very clear, but I want you to understand that when you have a case as badly lacerated as that was, it is pretty difficult to tell how it will turn out. The injury was caused by the use of an iron crank in the hands of a burly motorman, who wielded it with effect and the assistance of the conductor. As there is a suit for \$50,000 involved in this matter against the Brooklyn Railroad, there is much to be taken into consideration from my side. I have a great deal to think of as to what the outcome will be. It was my purpose to present to you the instruments and appliances used, and demonstrate something of the method of treating these cases in the mouth, but the time is too short, and I can only show you some of the things.

(Dr. Van Woert presented some of the splints and models which he had with him.)

**Method of
Wiring Fragments
to Splint.**

In the case where the fragment of bone is gone, you must remember that the suture holes were placed well back into the fragments of the inferior maxilla, and that after the splint was placed in position, it was considerable of a task to get the wires there. My method of doing that is, I think, worth a few seconds' consideration. I use No. 23 silver wire, and as leaders I use copper wire, which is wound on a little spool. I pass through the suture in the maxilla as many strands as I want of silver wire, adding two or three extra strands so in case of a break I will still have enough. After the leaders have been put through the suture, and the hole drilled into the splint, the whole thing is placed into the splint, leaving the strands sticking out of the splint on one side and the suture on the other. The wire is then twisted to one of those strands and pulled through. Now we have it through once. If we cut that off and string those strands through again until we have four or five, as the case may be, we would weaken all of them, from the fact that when you take it up you make a weak joint of every one of those wires; so I continue the course of one wire until I have four or five strands in continuous rotation around the fragments, making only one twist of that wire and retaining the strength of all by that method, and I have yet to see a wire break when put through sutures in that way. The copper wire is very flexible, and when wound into a bunch in that way, is very easy to introduce. There is one thing absolutely necessary, and that is a proper

pair of forceps for grasping and catching these wires at the time you need them. Any of the forceps can be used, of course, but a curved pair is much better, and you can reach through the opening in the splint. Maybe it will get around one of the leaders; with these forceps you can get hold of it and start it through again. Sometimes it is necessary to do that three or four times.

I will conclude with one other case, where no interdental splint was used. The superior maxilla was filled with nasty roots that had never been taken care of, and there was only one or two teeth on the lower jaw. The removal of those roots and the placing of the mouth in a condition fit to receive the splint made it utterly impossible to put in a splint, because the time required for the proper healing of those parts would have overlapped the time when it would be advisable to put a splint in and the face had to be bandaged without a splint. In those cases, instead of using the ordinary gauze bandages, I use adhesive bandages in different widths. In the hospital they have any variety of widths on large reels. They are very efficient, where you want to hold parts in perfect apposition without fear of the stretching which is apt to occur with the gauze bandages.

Discussion.

I would like to ask Dr. Van Woert a question.

Dr. Hart.

I was very much interested with his presentation, and would like to inquire from him if we have advanced in the Borough of Manhattan, or whether we have retrograded. It is our habit to construct our splints on what we term the single-deck plan, rather than the double-deck. We only cover the bicuspid, and probably the first molar, not the incisor or bicuspid, as Dr. Van Woert's splints do.

Dr. Van Woert.

All but one of the cases reported were complicated cases. One was a quadruple fracture. The bone had been parted in the sigmoid arch on each side between the first and second bicuspid on the left side, and the molars on the right side. A splint covering only the molars and the bicuspid would never have given the required support, but by covering all of the teeth I could do it. Splinting only a portion of the arch which is not fractured is a method that is known in Brooklyn as well as in Manhattan; but personally, I very seldom employ it, because I feel I get better results the other way. I cannot see the advantage, except the parts can be kept a little cleaner. If you will carefully look at the splints you will see that there is a chance for irrigation under and around them. They are not vulcanized to the model. They are formed loosely to the cast, and lifted off. Usually a good irrigating tank placed by the bed of the patient at home or at the hospital will keep these splints clean. They have been in a

ITEMS OF INTEREST

public ward in one of the hospitals of this city, where there are probably some of the worst cases in the two boroughs. They have had no polishing or anything of that kind—simply been washed in the ordinary way.

I am where a great many cases come in, probably
Dr. Gillyer. more than any other institution in this part of the country. In putting in splints, it is necessary to free the patients from pain, because they do not use anæsthetics, and it is necessary to have a little play. That is taught in the colleges and practised. Another thing, the splints there are constructed upon the same line exactly, and can be irrigated in exactly as good a way as the ones shown here.

Dr. Van Woert says he was the first to use this
Dr. Smith. sort of wire. I think I called his attention last spring to the fact that that was not so. Dr. Van Woert's success is due altogether to his technique—the operation of using the right angle—the way it is used. This case of the compound comminuted fracture of the jaw was a terrible case. The fact that such cases should not go to a general hospital is clearly shown. They had cut the lip simply to lay the flaps aside, but they had ample room to work without doing that. That Dr. Van Woert has been able to do anything with it was a wonder. This man had his right chest stove in, and the depression was so deep I could lay my fist in. He nearly died under the anæsthetic. I think a great deal of credit is due to Dr. Van Woert for bringing him through.

I am very sorry that the weather is as bad as it
Dr. Van Woert. is, because I had made all arrangements with the hospital authorities to have the man present. He is still there with some necrosis remaining, and it may be a month before I can discharge him. Any member of this society, or of the dental profession, who would like to see the case, can apply to me over the telephone, or at my office, and I will give him a card of admission, and he will receive courteous attention from the hospital staff and the attendants. They will find new union and a solid bone.

We have with us this evening Dr. Charles S.
The President. Butler, of Buffalo, and we would be glad to have him address us.

I thank you very much, Mr. President, for calling on me. There is one thing that I have on my mind at this time, and that is the formation of a dental corps in the Army and Navy. You have all heard something of this matter, and I hope are all interested
Dr. Butler:
Dentists
in the Army. in it. A committee representing the National Dental Association, of

which Dr. Donnelly, and Dr. Finlay, of Washington, and myself, are the original members, to which has been added an auxiliary committee of one member from each state from the National Association, has been appointed to secure from Congress legislation establishing or creating a dental corps in the Army and Navy. If the members of the profession who want to accomplish something along this line would communicate their desires to the committee, and be willing to act through the committee, it would be of great assistance. There are some, however, who are not willing apparently to do that, but are undertaking independent work, and seem to be perfectly satisfied to have the dental corps formed simply by the appointment of dentists as hospital stewards. I have too much pride in my profession, if we do have a corps in the Army and Navy, to have them hospital stewards. I believe we are above that, and we ought to ask for what we are entitled to receive. (Applause.)

Dr. Hyatt. I would like to speak on the subject of the Army dentist. A little over two years ago, I conceived what I thought an original idea—to have Army dentists. I talked the matter over with two or three, and they agreed it would be a very desirable thing. Not being well that winter, I took a vacation around Christmas time, and went to Washington. I might say that in trying to ascertain what was to be done in connection with getting Army dentists, I called upon ex-Secretary Tracy, and had a long conversation with him, and he gave me a very good letter of introduction to the commander in charge of the Navy Yard. My object was to gain permission to examine the teeth of the men on board of some ship situated in the vicinity of New York city. Two other dentists had signified their willingness to go with me and get data of the condition of the mouths of those men. Not being able to get that, I went to Washington, and through a personal friend, obtained a letter to the Secretary. The Secretary was out of town, but the Assistant Secretary read the letter, and thought my request could be granted. He saw no objection to my going to the Army post in New York and examining the teeth of the men, but he thought it was appropriate to be referred to the Surgeon General. I was referred to him, and that is where I was blackballed. I received a typewritten communication which stated that there was no doubt at all that if there was an examination made of the men at Fort Hamilton or Fort Wadsworth, that it would be found that a great deal of treatment would be needed for them, but there was no reason why the United States should take charge of the treatment of their teeth. I believe that was the old cry about Army doctors. I can see in the future that when the dental profession has a staff of dentists in the Army, we will be able to accomplish much that we cannot do now. While some individual dentists may be so fortunately situated

as to be able to pursue scientific investigations, the average practitioner is not, and we see in our magazines a clash between the scientific study of dentistry and the clinical side. It is to my mind possible to combine the two only in only such an organization as a dental corps in the Army would present to us. There could be a record kept, and it could be tabulated—the methods that were adopted, the instruments and the filling materials used. That could all be brought together and given to the profession, and would be of tremendous value. The Army surgeon rank would be doubled, because I say, with all due modesty in the name of our profession, that I take it that the average dentist would be better able, from his work, to do surgical work, than the average student from a medical college. I believe the mechanical skill of the average dentist qualifies him pre-eminently to be a surgeon on the field of battle, and I move that the Second District Society approve of the work that is being done by that committee.

I am very glad Dr. Butler has taken hold of this subject. I have been interested in it for many years.

Dr. Houghton. I have had a great many Army officers and Naval officers for patients, and have talked with them on this subject, and every one of them gives his hearty approval of a dental surgeon in both the Army and Navy. The other day I spoke of the matter to an Army commander, and he spoke of the difficulties he experienced in Cuba. They could not reach a dental surgeon, and what operations became necessary were done by bungling surgeons—that is, the dental part was bunglingly done. Nothing better than the extraction of the offending tooth could be resorted to for relief. I most heartily second the motion that Dr. Hyatt has made, that the Second District Society give its hearty approval of the action that is being taken.

I think the men in the Navy, especially, fare worse than we think they do. I visited the cruiser "Brooklyn" just after she returned from Santiago, and the apothecary there told me the surgeon never bothered with the treatment of teeth. They have a fine set of forceps made by the S. S. White Company. He said: "We try to get it out the best we can, trusting to God to do the rest."

Dr. Provost. For several years, in the state service, I was in the Navy at different periods during the summer time, for possibly a week or ten days at a time. While I was only a volunteer, yet I was a dentist, and looked at this subject from a dentist's view. The gentleman who last spoke was right in saying the apothecary attended to this work. While I was on the vessel, I saw many

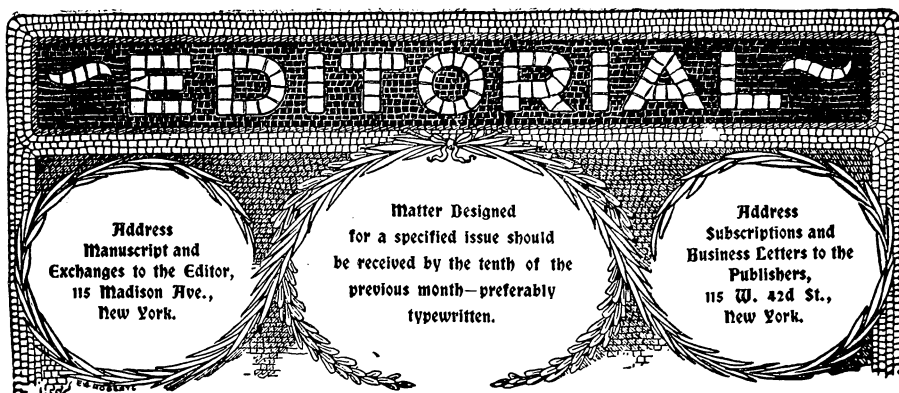
cases in which men lost teeth that were unnecessarily extracted. I was able to take care of some of them, because I took along forceps, and acted as a friend in need. The requirements in the naval service of the United States, and I presume also in the military service, is that the men must have practically a sound set of teeth. The loss of four teeth disqualifies them. It is a small number, but it acts as a great drawback to many men. Men go into the service with a perfect set of teeth, and serve their three years. At the end of the time, they have lost three or four teeth. They wish to rejoin, and are unable to do so on that account, and that is where the wrong comes in. They have some means of taking the teeth out, but absolutely no means of filling them. The naval service today, in the United States, is farther backward than the whole world was one hundred years ago. To bring about the desired result, perhaps a good way would be to interest the different Congressmen or United States Senators. By being in touch with the different representatives in Washington, perhaps something could be accomplished, although the Army and Naval departments are both very sensitive to Congressional interference. Some one spoke tonight of starting in the right way and getting a good position to begin with—the position equivalent to Assistant Surgeon. The Marines have long struggled for better positions, especially the engineers. They should be in the line, but they have gone in on a position that they did not want, and have struggled along in the same position ever since. If dentists go in as stewards, they will never get any further, and I think that all our efforts should be bent towards getting the very highest we can.

There is one point in connection with this matter which is fundamental to it all, and that is, the relation of the teeth to disease. The fact is, that the average dental graduate today is in a far better position to diagnose difficulties growing out of dental irritations than the average surgeon, and when we reflect upon the number of diseases which grow out of reflex dental irritations, we can see at once how vastly important that particular field is. For instance, I noticed but a few days ago, a report in the *New York Medical Journal* of a man dying in a clinic in New York city of suppurative otitis, caused by an impacted wisdom tooth. An intelligent dentist today, a graduate of any of our reputable schools, would, I think, have at once recognized the cause of the otitis, and would have saved the patient's life. I read an article by a New York oculist—Dr. Stedman Bull—within two weeks, in which he speaks of the number of diseases of the eye attributable to reflex irritations of the teeth in adult life. It is appalling. When we consider that the dental graduate is the man to recognize those conditions, we see how much more important that field

Dr. Butler.

is than the simple preservation of the teeth from decay and loss from decay. It is the importance of these things that we must bring to bear upon the Surgeon General at Washington, to convince him of the necessity for a dental surgeon in the Army and Navy. Our own Governor could give us great assistance. I endeavored in this past week to obtain an interview with him, but until after the meeting of the Legislature, he could not give an interview to any one upon any subject which did not pertain to his message. I think under proper conditions and at the proper time, he would assist us by his powerful influence and personality, and would benefit us amazingly.





Patent Bill Before Congress Again.

During the Fifty-fifth Congress a bill was introduced amending the patent laws so as to prohibit the granting of patents on methods of medical and dental practice. The bill was referred to the appropriate committees of both houses, and the Senate Patent Committee granted a hearing to the committee representing the dental profession, who appeared with counsel and argued in favor of the bill. Subsequently it was learned that a favorable report might be expected from the Senate Committee, but that they would take no action prior to the consideration of the bill by the House Committee. The tremendous rush incident upon the prosecution of the Spanish war and the many bills of national importance before Congress during the last session rendered it impossible to make any progress with the House Committee.

At the opening of the present Congress Senator Platt of New York again introduced the bill in the Senate, and subsequently Mr. McClellan, also of New York, introduced the bill in the House. A copy of the bill appears in this issue.

The Object of the Bill.

This bill must not be considered as legislation in favor of a class, but rather as an amendment to existing laws which will operate in the interest of the whole community. It is not an attack by the dental profession upon the patent system. On the

contrary, no class of citizens has been more benefited by the patent system than has the dentists. The tremendous strides made by dentistry during the passing century has been dependent upon improved educational advantages coupled with the scientific investigations and discoveries which its disciples have made, with the result of elevating the calling to the highest rank among the liberal and learned professions, placing it side by side with the humane doctors of suffering mankind, the physicians and surgeons. Surgery indeed is indebted to the dental world for anæsthesia, without which it could not have achieved its present high status. But dental progress has been equally attributable to the inventors among professional ranks who have given us improved instruments and materials with which to carry out the advanced operations recommended by our scientists. These improved instruments and materials could not have been within our grasp but for the protection of patents which encouraged manufacturers to invest hundreds of thousands of dollars in machinery with which to produce the many inventions offered by dentists to their fellows. Consequently we cannot too distinctly declare that our bill is not an attack upon the patent system, and that dentists favor rather than oppose patents as a principle.

**Opposition to
the Process
Patent.**

In connection with the patent system, however, there is what is known as the process patent, and in this guise there has grown up an abuse of the just intent of the system itself, which never was meant to serve the interests of a few, enabling these to harass and blackmail a class who minister to the sick and suffering. A process of producing a useful thing is recognized to be as patentable as the thing produced, and justly so. In connection with dentistry, however, the process patent is of a different character, and the holders of such patents have been an unjustifiable nuisance to dentists. We have no quarrel with those who ask for patents upon processes of making dental instruments, or articles to be used by and sold to dentists. The process patents of which we complain, give the holders thereof a property right in our methods of caring for our patients. It should be remembered that a large majority of all human ailments are intimately connected with what is commonly known as indi-

gestion, this in turn being dependent upon improper mastication. Thus a carious or diseased tooth is the first step towards illnesses of a more serious nature. Consequently dental operations must be considered on the same level with those of the physician or surgeon. What would be said to the applicant for a patent upon "A new and useful improvement in the treatment of consumption?" Or for similar treatment of catarrh, typhoid fever, or diphtheria? Suppose that a patent had been asked for the discovery of vaccination against smallpox. Would it have been considered just for such patents to issue? Would it have been in the interest of the public, that one man should have been permitted to control such a "process?"

In like manner the dentists claim that they should be unhampered in the practice of their profession, in the healing of the sick parts which are in their care. Unfortunately, because dental art is so largely dependent upon mechanics, the patent office has failed to differentiate, and has considered dentistry as of closer kin to mechanics than to surgery and general medicine.

Yet today the practice of dentistry is restricted in the same manner as is medicine. The states have passed rigid laws compelling the acquirement of a specified education, the standard of which is increasing yearly, before a man can hope to obtain a license to practice. Thus the citizen is protected, for the license to practice is in reality a declaration by state officers that the holder is qualified to render adequate service in relieving him of his pain, and restoring his lost or defective dental organs, thus again enabling him to properly masticate his food as a safeguard against greater physical ills.

Is it just, is it wise, is it best for the community that the patent office should give a man the right to interfere with the licensed and qualified dentist, and to prevent him from rendering the best service to his patients?

The dental process patent differs from all other and legitimate process patents in one essential characteristic. The process which is justly patentable specifically defines a mode of procedure which will produce a given result, and such a result should be practically similar and of equal perfection in each application of the process.

This is never true in dentistry, and the reason is that the dentist is

working upon the human body, and not upon inert matter. For example, a method of making a bridge (such method being patented, and such patent being at present a bone of contention) cannot be so specific that the operator can be assured that he has but to accurately observe directions in order to achieve success. In almost every instance it would occur that the "process" would require variation in order to properly serve the patient. Thus it could be shown in a final analysis that every piece of bridgework is made by a different process, part of which is the result of the applied inventiveness of the operator.

**Companies
Harass
Dentists.**

Nevertheless, for more than a quarter of a century the dentists have been contending against such patents. First, there was the Rubber Company, which controlled patents upon the application of vulcanite to artificial tooth plates. Their method was to demand a yearly license fee from dentists making plates of vulcanite rubber, and it is noteworthy that they furnished the dentists with absolutely nothing but "permission" to do this work.

Following the Rubber Company came the International Tooth Crown Company, which essayed to collect royalties, or license fees, or both, until the dentists in desperation banded together, forming the Dental Protective Association, with the avowed purpose of fighting the validity of this class of patents. Is not this action, by a dignified body of scientific men, significant? Has any other body of citizens ever formed an association to antagonize a feature of the Patent System? Does not this show that there is something radically wrong, and is not the wrong in the patent office rather than in the patents? Should not the patent office refuse these applications rather than grant these patents and compel the dentists to appeal to the courts for protection?

Copy of the Bill.

The following is a copy of Senate Bill No. 269, introduced by Senator Platt, of New York, and likewise introduced by Mr. McClellan in the House, where it is numbered 7017.

A Bill

Amending the statutes relating to patents, relieving medical and dental practitioners from unjust burdens imposed by patentees holding patents covering methods and devices for treating human diseases, ailments and disabilities.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section forty-eight hundred and eighty-six of the Revised Statutes be, and the same hereby is, amended by adding thereto the following paragraph:

"But no patent shall be granted upon any art of treating human disease, or ailment, or disability, or upon any device adapted to be used in the treatment of human disease or disability, or attached to the human body and used as a substitute for any lost part thereof, or upon any art of making such device, unless such device is adapted to be put on the market and sold substantially complete and ready for use or attachment," so that such section shall read as follows:

"Sec. 4886. Any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, not known or used by others in this country before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country before his invention or discovery thereof, or more than two years prior to his application, and not in public use or on sale in this country for more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law and other due proceeding had, obtain a patent therefor.

"But no patent shall be granted upon any art of treating human disease, or ailment, or disability, or upon any device adapted to be used in the treatment of human disease or disability, or attached to the human body and used as a substitute for any lost part thereof, or upon any art of making such device, unless such device is adapted to be put on the market and sold substantially complete and ready for use or attachment."

Sec. 2. That section forty-nine hundred and twenty-one of the Revised Statutes be, and the same hereby is, amended by adding thereto the following paragraph:

"Nor shall any suit or action be maintained for the infringement of any patent for an art of treating human disease, or ailment, or disability, or for any patent for any device adapted to be used in the treatment of human disability, ailment, or disease, or attached to the human body and used as a substitute for a lost part thereof, or an art of

making such device, unless it appears that such device can be made and put on the market substantially complete and ready for use or attachment," so that said section shall read as follows:

"Sec. 4921. That the several courts vested with jurisdiction of cases arising under the patent laws shall have power to grant injunctions according to the course and principles of courts of equity, to prevent the violation of any right secured by patent, on such terms as the court may deem reasonable; and upon a decree being rendered in any such case for an infringement the complainant shall be entitled to recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained thereby; and the court shall assess the same or cause the same to be assessed under its direction. And the court shall have the same power to increase such damages, in its discretion, as is given to increase the damages found by verdicts in actions in the nature of actions of trespass upon the case.

"But in any suit or action brought for the infringement of any patent there shall be no recovery of profits or damages for any infringement committed more than six years before the filing of the bill of complaints or the issuing of the writ in such suit or action, and this provision shall apply to existing causes of action.

"Nor shall any suit or action be maintained for the infringement of any patent for an art of treating human disease, or ailment, or disability, or for any patent for any device adapted to be used in the treatment of human disability, ailment, or disease, or attached to the human body and used as a substitute for a lost part thereof, or an art of making such device, unless it appears that such device can be made and put on the market substantially complete and ready for use or attachment."

Sec. 3. That this Act shall take effect immediately upon its passage, but the paragraph added to section forty-eight hundred and eighty-six shall not be held to apply to any application for patent filed prior to the passage hereof nor to patents granted upon applications filed prior to said date; nor shall the amendment to section forty-nine hundred and twenty-one affect the rights of action that may have accrued prior to the passage hereof.

How May We Have the Bill Passed?

Is the dental profession tired of fighting the International Tooth Crown Company and the holders of process patents? If so let them aid in passing the bill now in Congress which will stamp out the evil at the root. If the bill should become a law no more patents such as are held by the Crown Company can ever harass us. If not, other patent companies will surely rise to fatten on our vitals.

There is practically no opposition to the bill. Nevertheless, it may never become a law. I, as committeeman of the New York State Society, and representing all the other state and local societies which have indorsed this movement, together with nearly five thousand individual dentists whose signatures I hold, will labor to have the bill passed; but it is not to be imagined that the Congress of the United States will hearken to the cry of one man. I must have help, and the assistance which I ask is slight; slight for each individual but potent if rendered by thousands.

The bills are now in committees. It has been an easy matter to get them there: it will not be so easy to get them out of the committees. If several thousand dentists, if every reader of this magazine, will write to one or more Congressmen, and to at least one of his Senators, urging the passage of this bill, and requesting a reply, and if these replies are forwarded to me it will materially aid. As soon as I can obtain the promised votes of Senators and Congressmen in sufficient numbers, I will be in a position to ask for a personal hearing before each committee, and if when this is granted I show that we have a strong vote already pledged, the committees will be impressed with the fact that this is a bill to be reported rather than to be pigeon-holed; that it is demanded in all parts of the country by a respectable body of men.

If when reading this you are impressed with the justice of this request, write the letter immediately; while the impulse is strong. Do not delay by a single day. Also write a brief letter urging a favorable report of the bill, to any member of either patent committee, who may belong to your own state. The committees are appended.

RODRIGUES OTTOLENGUI.

ITEMS OF INTEREST

Senate Committee on Patents:

Jeter C. Pritchard, of North Carolina.

Orville H. Platt, of Connecticut.

John M. Thurston, of Nebraska.

L. E. McComas, of Maryland.

Stephen R. Mallory, of Florida.

Thomas B. Turley, of Tennessee.

Henry Heitfeld, of Idaho.

House Committee on Patents.

Winfield S. Kerr, of Ohio.

Walter Reeves, of Illinois.

John B. Corliss, of Michigan.

Romeo H. Freer, of West Virginia.

James M. E. O'Grady, of New York.

Arthur S. Tompkins, of New York.

Summers M. Jack, of Pennsylvania.

William Sulzer, of New York.

Champ Clark, of Missouri.

Thomas Y. Fitzpatrick, of Kentucky.

Phanor Breazeale, of Louisiana.

William F. Rhea, of Virginia.





Questions will be answered in this department, provided the answers would be of general interest. After publication our readers are cordially invited to make further reply, criticism or comment.

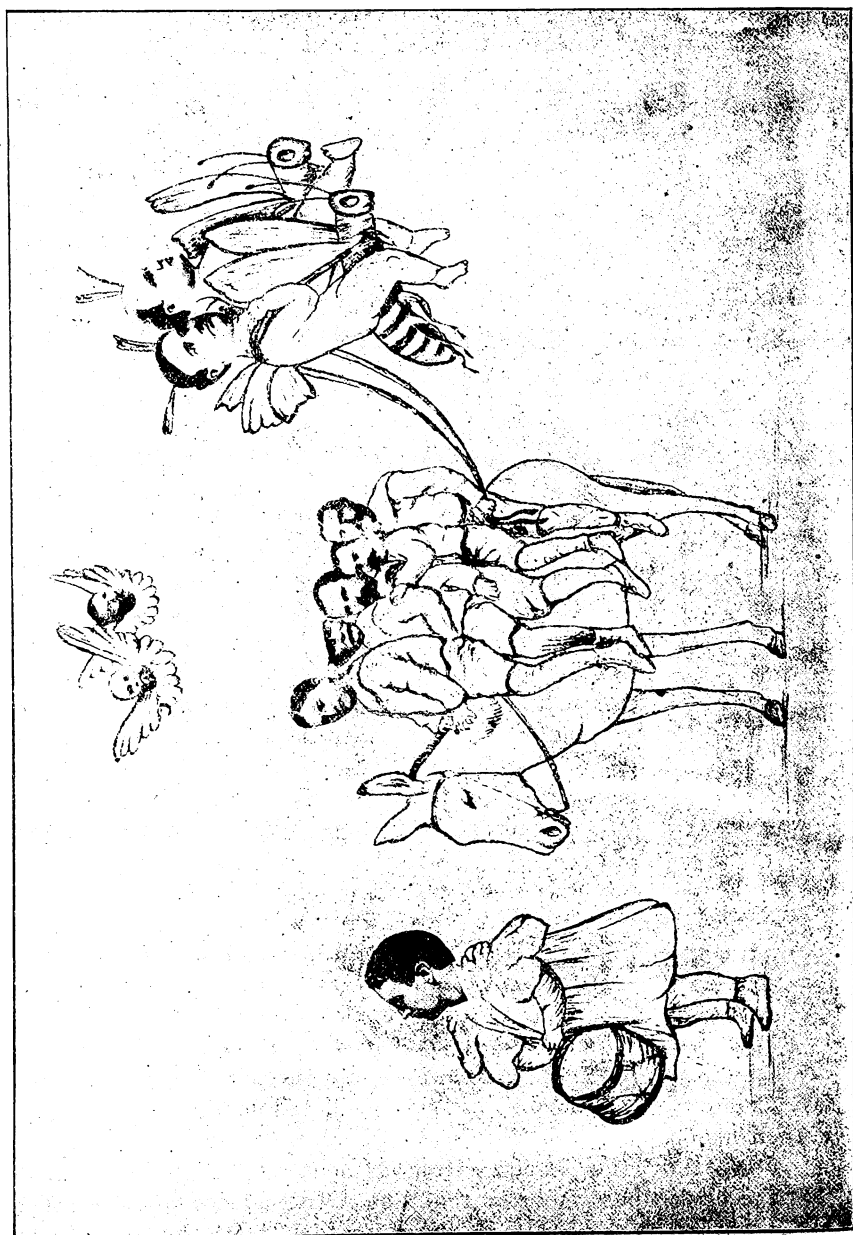
The request published in the last number, that our readers should communicate with members in Congress in behalf of the bill authorizing the engagement of dentists in the Army, attracted the attention of a number who did as requested, with the result that they received pledges of support which were forwarded to the chairman of the committee in Washington and will do good. It is to be hoped, however, that a great many more of our readers will write to Congressmen in regard to the patent bill, as requested in our editorial department.

Dentists in the Army.

The last news in regard to the Otey bill which has been received from the chairman of the National Committee, announces that prospects are fair. About two hundred votes in Congress have thus far been pledged in support of the bill, and with

this showing it has been possible to obtain the promise from the Military Committee that our bill will be considered next after the one now in their hands.

For a short time, much encouragement was taken from the fact that the newspapers reported that Gen. Otis had notified the government that his men were suffering with their teeth, and asking that dentists should be sent to him. This would have been a strong argument in Congress. Unfortunately, however, though widely published



in the newspapers, it was soon discovered that this report was false. As the medical corps, however, are not as bitterly opposed to the dental bill of this year as they were to the one which failed to pass at the last session, it is confidently believed that they will interpose no obstacle.

The work of passing the bill is well begun, but far from finished. All of those who are interested should bend every exertion unremittingly to its success.

New Jersey State Dental Society.	It has long been the custom of the New Jersey State Dental Society for the president to give a dinner to the officers of the association. On February 3d Dr. Wm. E. Truex, the president for 1900, entertained the officers of the association at an
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elaborate banquet given at his home.

The menu attracted considerable attention, not only because of the delightful viands enumerated, but because of the artistic attractiveness of the cover, on the first page of which appeared many pretty photographs taken near the doctor's home. The *piece de resistance*, however, was the drawing on the last page, which is here reproduced.

No explanation has been made of the meaning of this picture, so that all are at liberty to think it out for themselves. All that is known is the following: The gentleman in short frocks is Mr. Foster M. Voorhees, the Governor of the State. The donkey who is following the bandmaster is evidently an intelligent beast, since he carries on his back the entire New Jersey Commission, including Dr. Geo. Emery Adams, Dr. Edward Maurice Beesley, Dr. F. C. Barlow, Dr. G. Carleton Brown and Dr. C. A. Meeker, in the order named.

It is to be observed that whilst Dr. Meeker is at the tail of the procession, it appears that he has the State Society on a string, as the two hornets bear upon their backs the president and vice-president of the State Society—Dr. Wm. E. Truex and Dr. F. Edsall Riley.

The angels in the upper portion of the figure (or are they cherubs?) are Dr. A. R. Eaton and Dr. Oscar Adelberg, two gentlemen who are noted for their watchfulness of the best interests of the Society.

Interchange of License Effectcd.	In our last issue we published some letters in regard to interchange of license between the States of New York and New Jersey, which seem to have conveyed the idea that Dr. Jarvie had incorrectly reported the state of affairs. Nothing could have been
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further from our intention, as it was well understood that Dr. Jarvie, as a member of the New York State Board, was thoroughly cognizant of the exact terms of the agreement between the two states, the letters were meant

merely as a comment upon what seems to be dilatoriness on the part of the Board of Regents in ratifying the action of the Boards; even in this respect however, it is possible that we were in error. At all events, it is a pleasure to be able to report that the Board of Regents has ratified the agreement made between the Boards, and at the present time, interchange of license between New York and New Jersey is an accomplished fact. Dr. Marshall has renewed his application, and has received a letter from the Board of Regents giving him directions as to the proper course to pursue in order to obtain the right to practice in New York State, and by the time that this reaches our readers, his application will probably have received official action.

Much credit is due to the members of the examining boards of these two states who have succeeded in inaugurating this movement, especially as it appears that they have found the only proper solution of the much discussed question of interchange of license. The laws of these two states permit the acceptance of licensed practitioners from other states, but only when the standards of education required by the other states are equivalent to that of New York and New Jersey, and as the standard in these two states is the highest in the country, the way is open to achieve a national interchange without retrogression of educational standards.

The State of Pennsylvania will probably be the next to be accepted into the agreement, but only when they shall have increased their educational requirements which, at the present time, are not quite equivalent to those of New York and New Jersey.

As the whole trend of dental thought at present is toward higher education, many States in turn will adopt this course, and in the end we will have interchange between all of the states, this being accomplished coincidentally with the leveling of the standards.

During January, the Alumni Association of the Dental Department of Buffalo University gave a series of clinics in the college building for the benefit of the students, and of themselves, and of the dental profession of the neighborhood.

I had the pleasure of being the guest of the occasion, as was also Dr. Hunt, the editor of the *Indiana Dental Journal*, and both of us were right royally entertained.

The college building seems to be most admirably equipped for its purposes. The lecture room is an amphitheatre which occupies the center of the building, rising from the second story to the roof, and lighted admirably by a skylight from above. Around this, in other portions of the building, are the infirmaries for the different classes, the classes occupying separate floors.

The ventilation and heating of the building are accomplished by the most modern methods, an enormous engine in the cellar taking air from the external atmosphere, and driving it through heated pipes and flues, distributing it in all parts of the building so that an equable temperature is maintained.

A number of very interesting clinics were given, and on the evening of the first day, the friends of the alumni were entertained at a banquet. After a sumptuous collation, speech-making followed, and it was surprising to find how many real orators are in the association. As special guests, there were representatives from the various classes of undergraduates, one member of each class responding to a toast. All three of these acquitted themselves most admirably, the representative of the junior class probably making the best speech of the evening.

The example of this alumni association in returning to its Alma Mater and holding clinics for the benefit of the undergraduates, might well be followed by all of the similar associations throughout the country.

**Difficult
Plaster
Impressions.**

Dr. A. W. Wimmer, of Chicago, Ill., sends us a communication in which he states that for years he has been able to take plaster impressions of mouths where single teeth with very narrow necks stood alone. His method is to wrap such teeth with floss silk until they present parallel sides. After making the model, he carves the teeth down to an approximately accurate shape.

It seems strange that so many propositions have been made throughout our literature whereby difficult cases might be more easily taken with plaster of paris. This last suggestion seems to have little if any value. The only advantage of plaster of paris over wax, or any of the impression compounds on the market, is that with plaster accurate impressions may be taken of those cases where the impression material would "draw" upon removal. It is evident that a model poured in an impression made of compound would produce about the same shaped tooth as would Dr. Wimmer's method; that is to say, the teeth would have parallel sides and would require carving.

On the other hand, if the plaster is used direct, and taken out of the mouth at the proper time, it would fracture sharply, and when the pieces are placed together again we would have a perfect impression from which to obtain an accurate model, giving the exact shape of the tooth, a matter of prime importance in the fitting of clasps.

Almost any impression can be taken with plaster using an impression tray, but in rare cases where it is evident that unusually difficult removal would be met, the end is equally well accomplished by putting

the plaster in the mouth with a knife, placing it exactly where it must be placed without using an excess, and thus rendering it more easily fractured and removed than where an impression tray is used.

**Surgeon-General
approves the
Otey Bill.**

The editor of the *Western Dental Journal* presents his readers with a very pessimistic editorial in regard to the present status of the Otey bill. He admits that the votes of a majority of the Congressmen have been promised, but declares that they cannot vote on the bill until the Military Committee shall have reported it, and that this committee will not report the bill until the Surgeon-General shall have given it his approval; and the editor of the *Western Dental Journal* prophesies that this approval will never be given. We feel sure, however, that he will be pleased to learn that the Surgeon-General has approved the bill in a letter which reads as follows:

“War Department, Surgeon-General’s Office.

“January 16, 1900.

“Respectfully returned to the Honorable, the Secretary of War, recommending approval of the bill.

“The large number of troops in the Philippines and elsewhere, where the service of competent dentists cannot be secured, makes it desirable that the Government should make a reasonable provision for emergency dental work required by officers and enlisted men of the army.

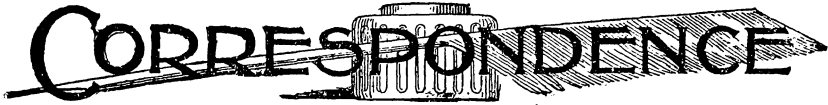
(Signed)

“GEORGE M. STERNBERG,

“Surgeon-General U. S. Army.”



CORRESPONDENCE



Manual Training in High Schools.

Editor ITEMS OF INTEREST.

DEAR SIR: In regard to Dr. Kirk's article, as found in ITEMS OF INTEREST, page 39, his inquiry seems quite opportune, and he is quite right in his statement that the high school standard is by no means a uniform standard; that not all high schools fit a student as he should be fitted for professional study. His proposition that the dentist should possess manual skill seems accurately defined in its equivalent, "The power to put into practical execution the suggestions of the brain," and his reference to the marked tendency in the practical application of the manual training method seems accurate and forceful. I feel sure that his conclusions are wisely drawn, viz., that all high school courses are not adequately arranged for supplying this kind of mental qualification, and that the manual training school course is not the ideal system for the dentists' needs; that a conservative blending of the best features of each system will more nearly meet the requirements.

The time seems ripe for determining a special dental course. The medical council at its second meeting held in Albany, January 30, 1900, after a discussion of a suggested course of study preliminary to the study of medicine, voted "that as the general plan has been approved (by the medical schools of the State), the matter be referred to a committee to correspond with the medical schools and perfect details." This committee consists of Drs. Raymond, LeFever and Dearborn.

At a meeting of the Regents held December 21, 1899, the action of the State Board of Dental Examiners recommending that the dental council obtain an opinion from New York dental faculties as to a special three-year preparatory course for admission to dental study was approved, and it was voted that such an opinion would be gladly considered; also, that if the dental faculties agreed on a special preparatory course, and this course was approved by the Regents, such a credential would be offered.

A careful study of the courses and working programs for New York State schools will be published in the forthcoming report of the director of high schools department. It shows in condensed form what New York

schools can do, and I am firmly convinced that it is adapted to meet Dr. Kirk's recommendations, both by the conservative blending of the best features of each system, and by affording the studies outlined, viz., mathematics, language, literature, history, science and manual training. The amount of time given to manual training work would be less in this outline than that given by the ordinary teacher, for the summary of academic subjects is based on the assignment of three-quarters of the subjects to culture and one-quarter to professional requirements. By reference to the professional courses, medical division, on the inclosed galley proof, you can readily see how in the eleventh and twelfth years, two years' work can be given to manual training under shopwork. The amount of time to be devoted to manual training may not be ideal, but it has the advantage of being feasible in a large proportion of the New York State high schools.

I would like to get Dr. Kirk's outline of the amount and treatment of the subjects he would like to incorporate in planning a manual training course with the regular high school courses. I am preparing for the forthcoming syllabus, that goes into effect this year for the coming five years, outline courses in manual training, and the subjects desired by the dental educators would be helpful in my study.

JAMES RUSSELL PARSONS, JR.,
Secretary N. Y. Board of Regents.

Editor ITEMS OF INTEREST.

Dear Sir: I received your letter of January 19th,* and have read Prof. Kirk's interesting paper in *ITEMS OF INTEREST*, which you kindly sent me. You ask my opinion upon the proposition of Prof. Kirk, and also whether or not it is possible for the public schools of Massachusetts to carry on a system of manual training such as is described in the paper referred to. In reply I wish to say in the first place that I am in hearty sympathy with the broad idea of the value of manual training and technical education as a feature of secondary school systems. I do not think that any principal of a manual training high school, or any superintendent of schools in this or any other state, would have any ground of contention with Prof. Kirk. He has stated the real meaning of manual training and the technical element in secondary education most admirably. The only point that I should question is the fear which he expressed that there is a marked tendency in the schools already organized to lose sight of educational

*Dr. Kirk's article and a letter asking for an opinion thereon was sent to a number of high school principals throughout the country.—Editor.

values and strive for the cultivation of manual skill only. I am well aware, however, that he is not the only one who has suggested a possible danger of this sort.

The courses in technical high schools are certainly undergoing some changes. Methods are being employed which are more in line with modern practices in the arts and industries, but it does not follow from this that we are losing sight of the strictly educational bearing of this work. So long as the mind is kept constantly active and automatic operations are carefully eliminated, it seems to me that there is no danger that secondary education may become a mere training in mechanical processes. Furthermore, there are no manual training high schools that I know of, and certainly none worthy of that name, in which all the time is devoted to practice in manual operations. Nearly all of them have courses in mathematics, language, literature, history and science, which are as strong as those of the old line literary high schools, and in some cases stronger. To confirm what I say on this point permit me to refer you to the course of instruction in the Mechanic Arts High School of Springfield, Mass., which I will enclose.

I might add, also, that we have one or two students in this school who are likely to study for dentistry later. They came here because they thought that this school would enable them to lay a foundation for that work.

Your second inquiry as to whether or not it is possible to carry on a broad system of manual training in the public schools of this State has already been answered in what I have just said; that is, we already have such schools; and there are likely to be more of them, organized either as separate technical high schools or as technical departments in the regular high schools.

Hoping that I have made myself clearly understood, I remain,
Very truly yours,

CHAS. F. WARNER.

(Principal of Mechanic Arts High School, Springfield, Mass.)

Editor ITEMS OF INTEREST:

Dear Sir: I am always just a little puzzled when I read articles on manual training, to know how to state the impression made on my mind. Agitation over the introduction of the subject into our school curriculum originated from the decay of customs prevalent two generations ago which were adapted to the times, but which industrial changes had caused to become obsolete about a generation ago. I was, at the latter period, master mechanic in a manufactory. My technical education had been obtained piecemeal and was very imperfect, as compared

with one that can now be so easily and fully obtained, for my youth was passed during the twilight period of manual training history, when not even the name had been coined or the subject thought of, and when the world was grasping for, it knew not what.

A purely classical course I had little taste for, and there being no other kind of colleges, I gravitated instinctively into a shop, where I learned every branch I could, and supplemented that knowledge by what I might get from such books as I could lay hold of.

From 1876 to 1885 efforts were made by a score of advanced thinkers in Springfield to establish a mechanical institution here, using me as an instrument in directing it. On the latter date (1885) a small beginning was made which has since been growing, until to-day it has reached about the same point of development as in other interested cities. Meanwhile, as it has increased, I have been obliged to retire from lack of qualification apparently to handle it as educators demand.

Approaching the subject from its mechanical side, I unavoidably view it in a somewhat different light from most manual teachers or thinkers or writers. I appreciate all I read regarding its value as a system of brain training, but remarks so often made in connection therewith usually jar on my sensibilities and produce discord within me; for instance, the frequently made remark that "manual training has no claim to a place in our school curriculum except by virtue of its value to develop brain power," and the statement made to or concerning manual training students that they "are not expected ever to soil their hands after leaving school, or to use their acquired skill as a means of earning wages." In this category I must place your remark that "Prof. Kirk's notion is that manual training shall educate to think logically rather than to educate the hands to do things." If I might substitute *as well as* for *rather than* I would not take exception to it. I should think dentists would appreciate my view, inasmuch as their business is so largely skilled hand work under the direction of a cultivated brain.

These prevalent views seem to me to be subservient of the good order of society and to throw disrepute on many honorable callings, the happy pursuit of which forms an important element of the firm basis on which a republic must stand. The effect of a deal of our higher education to-day is to dig a deep gulf between the highly educated and the imperfectly educated. The former are trained to look forward to a life of ease earned through their education, and the latter are denied their birthright. Every man who is permitted to enjoy a collegiate education should have the truth impressed upon him repeatedly that he is

being allowed to enjoy said privileges, that he may later on be of value to the community, and not that he may enter an aristocratic class; and every one who can be carried no farther than the high or grammar school, should be supplied with every possible facility for mastering the trade or occupation for which his talents and tastes fit him, with the added elements of every kindred craft in which he can be persuaded to take an interest. Until this is done, manual training will fail of accomplishing what its original promoters felt to be needed, and what the safety of our republican institutions demands.

At present there is too great a tendency to expect places of responsibility to be filled by technically graduated young men who, while confessedly fitted on one side as never before, are lamentably deficient in ability to sympathize with the workmen over whom they are placed. This does not apply to the dental profession as extensively as to large manufactories, since your men are not such large employers of labor, but it affects the attitude which your men are unavoidably tempted to assume in the community.

The way out of the difficulty is to educate the public to such an appreciation of manual training for its namesake, that they shall demand and support, not only manual training schools, but a complete system of manual training from the primary grades up, for every boy and girl, with a special manual training arrangement whereby children who are backward in book study, but hungry for tool using, can be grouped in buildings by themselves where their God-given talents shall be recognized, appreciated and honored equally with those of their comrades who love books best. Then no child should be urged to take an advanced course of study, classical, scientific, engineering or professional, or counseled thereto unless he has a leaning towards it. Such a scheme would relieve dental and other colleges of much of their useless lumber. Possibly this suggestion approaches your ideal.

Moreover, no graduate ought to be allowed to fill a station of prominence until he has first worked for a year or more for wages at some one of the branches of manual training which he has studied, or at some similar labor which will be an equivalent in accomplishing the desired end. It would fit him better for his position, and would give him sympathy for those less fortunate than himself, which would go a great way toward solving many of the industrial problems of the day.

I am pained that manual training thought has taken so exclusively a brain training direction, that there is no room left for such a man as myself, after twelve years of diligent labor, to be useful in its further promotion, but I sincerely hope the time will come when its industrial side will be equally valued with its intellectual.

My successor, Mr. Chas. F. Warner, whose name I mentioned to you in a previous letter, will, I presume, give you a paper quite in accord with the prevailing notion.

Regretting that I cannot give the unqualified indorsement to the language of Prof. Kirk which I would like to do, I am,

Yours, with intense interest in the cause of manual training,
Springfield, Mass. GEO. B. KILBON.

Correspondence With Secretary of California Board.

Dr. Ottolengui.

Dear Sir:—I notice in the January number that you are quoted as saying "that *members* of the California Board demand from \$250 to \$1,000 for a license."

I wish to state that you utter an uncalled for falsehood, pure and simple, and there is no excuse for nor foundation for any such statement as there are no charges ever been made against only *one* member of our Board. A retraction through the columns of the ITEMS OF INTEREST will be the honorable and manly course for you to pursue towards the men you have wronged. Truly, W. A. MOORE.

Benicia, Cal., January 18, 1900.

Dr. W. A. Moore, Benicia, Cal.

My Dear Doctor:—I have read over the lines to which you call my attention, and I can find nothing in them to warrant the language in your letter. There was nothing personal in what I said, certainly not personal to yourself; moreover, the statement was not false as you declare, but quite exactly as I have stated, as I have simply repeated, crediting the same to the press, what has appeared in the public prints of your state. You will probably recall, when I remind you of it, that the Fresno man declared when he was approached for money, that he was told that the sum of money was to be divided among four. I therefore find no necessity for making any retraction; moreover, I have repeated the whole matter in our February issue, clipping quite freely from the press.

Since you are so sensitive in this matter, perhaps you will be willing to offer an explanation of why it is that the responsibility of properly investigating the charges have been shifted back and forth be-

tween the Board and the Governor. As far as I can understand the situation, the Governor claims that only the Board has the authority to discipline the accused, while on the other hand the Board finds itself powerless to summon witnesses, and consequently was unable to have a proper investigation.

You cannot expect the press, including the dental journals, to sustain the Board of California while they are satisfied to remain unvindicated from such charges.

Please understand that nothing that I have written is personal to you. Very truly yours,

R. OTTOLENGUI.

New York, January 30, 1900.

Dr. R. Ottolengui.

Dear Doctor:—In reply to yours of January 30th I will say that, to make a long matter short your statement in the January ITEMS OF INTEREST is false. Any man that has arrived at the age of discretion, and places any dependence in the daily newspapers (perhaps your papers are to be depended on in New York) must be verdant indeed. I don't think I am over sensitive, as you suggest, but when my good name is assailed I think it my privilege and duty to protest.

As you seem to think this matter has been "shifted back and forth between Governor and Board," such is not the case. The facts as they stand are these: The charges were preferred by Dr. Cranz against Dr. Tebbets to the Governor. The Governor wrote the Attorney General asking him what authority he had to order an investigation, and if said charges were found to be true, what authority he had to remove the guilty party. The Attorney General wrote the Governor that he had *no* authority to order an investigation of the matter, and if the man were guilty, he had no authority to remove him. I have all the correspondence that passed between the Governor and the Attorney General in my office now.

The Governor remanded the latter back to this Board for investigation. A meeting of the Board was called, and Dr. Cranz gave Dr. Backman, the president of the Board, a list of witnesses he wanted. They were all subpoenaed and four of them came, but the testimony was not conclusive enough to find Dr. Tebbets guilty, and on motion *two* weeks' time was given Dr. Cranz to get the witnesses for another investigation. At the expiration of the two weeks we held another meeting. Dr. Cranz came to that meeting and made the following statement, "that he had dropped the case," and the case was dismissed.

Now, Doctor, you have the true state of affairs.

Our dental journals in San Francisco happened to know all about the case, and they have refrained from saying anything in regard to it, and unless you see fit to state the facts as they are, I hope you will do the same. I repeat again that when you say that the *members* of the Board demand from \$250 to \$1,000 for a license it is false, for you cannot show where only *one* member is accused and that from affidavit from an unsuccessful applicant.

Hoping this little explanation will convince you that you are wrong in accusing the Board of wrongdoing, I remain, very truly yours,

W. A. MOORE, Secretary.

Benicia, Cal., February 4, 1900.



Charles R. Kearns.

Charles R. Kearns, D.D.S., was born November 16, 1871, at Nightstown, Indiana, and died January 16, 1900, at Lincoln, Nebraska, after an illness of eighteen months with pulmonary consumption.

Dr. Kearns graduated from the Dental Department of the State University of Iowa in the class of '93. He began the practice of his profession in Lincoln, Nebraska, but failing health caused him to abandon it after two years. He was a musician of marked ability and a practitioner of great promise, and the profession of Nebraska have lost in him a valuable ally.

He leaves a father and three sisters to mourn his call to an early grave.

Lendon S. Straw.

Mr. President and Fellow Members:—Your committee on resolutions upon the death of Dr. L. S. Straw beg leave to report the following:

Whereas, Our beloved fellow member of the Second District Dental Society, Dr. Lendon S. Straw, has been removed from us by death,

it becomes our painful duty to make a record of our appreciation of his worth and our loss; therefore, be it

Resolved, That it is the sense of this society that in the death of Dr. Straw we recognize the loss of one of our most distinguished members. Many times called upon to serve us as president, he was to our younger members always a ready and prudent counselor, while our older members kept for him ever the first place in their hearts as a tried friend. Moving to our state from Bangor, Maine, he entered upon the practice of his profession in the city of Newburgh, in the year 1857. Almost from the very first he took an active part not only in matters relating to his profession, but also in all things pertaining to the public welfare. A man of genial nature and kindly heart, the years only added to the long roll of his personal friends. His taking away we regard as a great loss to our profession in the state, but we mourn with those dear ones he has left behind, as for a noble and a generous friend.

Resolved, That a copy of these resolutions be spread upon the minutes of this society and that copy be sent to the family.

WILL JOHNSTON.
WILLIAM JARVIE,
O. E. HOUGHTON,
Committee.





State Society Meetings.

Colorado State Dental Association, Boulder, July 10.
Florida State Dental Society, Jacksonville, May 1, 2, 3.
Illinois State Dental Society, Springfield, May 8, 9, 10, 11.
Indiana State Dental Association, Indianapolis, June 19, 20, 21.
Kentucky State Dental Association, Louisville, May 29, 30, 31.
Maine Dental Society, Brunswick, July 17, 18.
Minneapolis State Dental Association, Minneapolis, September.
Nebraska State Dental Society, Omaha, May 15, 16, 17, 18.
New York State Dental Society, Albany, May 9, 10.
North Carolina State Dental Society, Greensboro, May 9, 10, 11,
Ohio State Dental Society, Columbus, Dec. 4, 5, 6.
Pennsylvania State Dental Society, Reading, July 10.
Rhode Island Dental Society, Newport, July 10.
South Carolina State Dental Association, Harris Lithia Springs,
July 10.
Vermont State Dental Society, St. Johnsbury, March 20, 21, 22.

Local Society Meetings.

Third District Dental Society of the State of New York, Albany,
April 17.
Sixth District Dental Society of the State of New York, Bingham-
ton, May.
First District Dental Society of the State of Illinois, Galesburg,
Sept. 28.

International Dental Congress.

Report of Transportation Committee.

The Subcommittee on Transportation has completed arrangements with the well-known tourist firm of Thomas Cook & Sons, 251 Broadway, New York, so that dentists who expect to attend the Congress to be held in Paris, commencing August 8, 1900, may secure for themselves and family steamship and railroad tickets and hotel accommodations at the minimum of expense and trouble.

In making these arrangements the committee has taken into consideration that while some of the delegates may wish to secure only transportation from New York to Paris and back to New York, many delegates will wish to visit other parts of Europe during the summer and they have planned the following tours to assist such in the selection of a trip that the time at their disposal and their means will suggest.

Tour 1.

A.—From New York by Red Star Line Steamer "Friesland" on July 18th, for Antwerp, thence rail via Brussels to Paris, returning same way to New York. First-class passage, providing berth at minimum rate for two berthed room, \$157.85.

If traveling second-class from Antwerp to Paris and return, fare would be \$4.65 less.

By traveling on steamers "Kensington" or "Southwark" of the same line, fare would be reduced.

B.—Via Cherbourg (North German Lloyd Service).

From New York by North German Lloyd Steamers "Barbarosa" and "Friederich der Grosse," sailing July 12th and 19th, respectively, for Cherbourg, thence rail to Paris and return same way (twin-screw service only). First-class passage, providing berth in room for two persons (minimum rate), \$177.00.

C.—Via Cherbourg (Hamburg-American Line Service).

From New York by Hamburg-American Line Steamers "Pennsylvania" and "Pretoria," sailing July 14th and 21st, respectively to Cherbourg, rail to Paris and return via Boulogne-sur-mer and Hamburg-American Steamer (twin-screw service) to New York. First-class passage providing minimum fare for berth in room for two persons only, \$184.25.

Lower fares can be obtained if occupying berth in room with two or three other occupants.

D.—Via Boulogne-sur-mer (Holland-American Line).

From New York by twin-screw steamers "Potsdam," "Staten-dam," and "Rotterdam," sailing July 7th, 14th, and 28th, respectively to Boulogne-sur-mer, thence rail to Paris and return same way to New York. First-class passage providing minimum fare for berth in room for two passengers, \$163.00.

If traveling second-class from Boulogne to Paris and return, fare would be \$3.80 less.

Lower fares can be made by leaving on steamer "Sparndam," July 19th.

Tickets can also be arranged via Southampton or Liverpool at proportionate fares.

Tour 2.

To provide hotel accommodation in Paris for two weeks (14 days and 13 nights), at Grand Hotel du Trocadero, carriage drives for three days, including excursion to St. Cloud and Versailles, 20 tickets of admission to exposition and transfers to and from railroad station to hotel, \$65.00.

Tour 3.

One week's tour to Switzerland from Paris, visiting Luzerne, Interlaken, Thun, Berne, Lausanne, Lake Lemman, Geneva, including hotel accommodation, sight seeing, etc., second class railroad, \$50.00.

Tour 4.

One week's tour from Paris to Mayence, thence steamer on Rhine to Cologne, rail to Amsterdam, The Hague, Rotterdam, Antwerp, Brussels, Antwerp, Harwich, London, including second-class railway travel, first-class on steamers, hotel coupons (3 meals per day, with lodging), \$42.50.

Those traveling via Cherbourg can return by steamers of same line from Southampton and so make short tour from Continent through England in connection.

There is a U. S. revenue tax of \$5.00 upon each ticket, regardless of the number of passengers in whose name it may be made out.

Should any one wish to make a longer tour than any of the fore-

going, or one with a different route, Messrs. Cook & Sons have such a large variety of tours already planned that there need be no difficulty in making a selection to suit the taste, means or the time at the disposal of any one.

The war in South Africa has caused the withdrawal of many of the English steamships. Passenger accommodations across the Atlantic will be less than usual this summer, while the Paris Exposition is attracting great numbers, so that the committee wish to impress upon delegates the great importance of securing their steamship accommodations at once.

Address all communications regarding steamships, railroads, hotels, etc., to Messrs. Thomas Cook & Sons, 251 Broadway, New York.

A. W. HARLAN,
W. E. GRISWOLD,
W. W. WALKER,
WILLIAM JARVIE, Chairman.
Transportation Committee.

Massachusetts Board of Registration in Dentistry.

A meeting of the Massachusetts Board of Registration in Dentistry, for the examination of candidates, will be held at 563 Tremont street, Boston, Wednesday, March 21st, 1900, at 9:30 A. M. Examination in Operative Dentistry at 10 o'clock.

Each candidate must come prepared with rubber-dam, gold and instruments, to demonstrate his skill in operative dentistry. Any one who wishes may bring his patient. So far as possible patients will be furnished.

The theoretic examination will include operative dentistry, prosthetic dentistry, crown and bridge work, orthodontia, anatomy, histology, surgery, pathology, materia medica, therapeutics, physiology, anesthesia, chemistry and metallurgy, and will be held at Civil Service Rooms, State House, commencing Thursday, March 22, 9:30.

All applications, together with the fee of twenty dollars, must be filed with the secretary of the board on or before March 14, as no application for this meeting will be received after that date.

Candidates who have taken an examination, and desire to come before the board again at this meeting, must notify the secretary as above in order to be registered.

G. E. MITCHELL, D.D.S., Secretary.

25 Merrimack Street, Haverhill, Mass.

The National Dental Association.

The National Dental Association meets at Old Point Comfort in June next, and the clinic committee are very desirous of making the clinics an important feature. The majority of clinics will be given on models, making what is known as "Table clinics."

Any one having anything new or original that he would like to present there, would confer a favor on the undersigned by communicating with him at once.

Atlanta, Ga.

THOS. P. HINMAN,
Chairman of Clinics.

North Carolina State Dental Society.

The twenty-sixth annual meeting of the North Carolina State Dental Society will be held in Greensboro, N. C., May 9, 10 and 11.

The State Examining Board will meet May 7 and 8 at Greensboro.

Those wishing to apply for license to practice dentistry in this state will please note the date.

J. S. SPURGEON, Sec'y.

Hillsboro, N. C.

Kentucky State Dental Association.

The next annual meeting of the Kentucky State Dental Association will be held in the city of Louisville, on the 29th, 30th and 31st of May, 1900. We are already assured of the best meeting in the history of the association. We have some thirty papers promised for the meeting and nearly as many clinics, and we will still add others to the list. Aside from an attractive programme, the meeting of the National Confederate Association in Louisville at the same time enables us to procure a one-cent per mile railroad rate from over the greater portion of the United States. There will be many other attractions to the dentists who attend; trips to the wonderful Mammoth Cave and to the blue grass region of Kentucky. Ample accommodations at reasonable rates have already been obtained. For further information address

F. I. GARDNER, Secretary.

213 West Chestnut Street, Louisville, Ky.

West Virginia State Board of Dental Examiners.

The West Virginia State Board of Dental Examiners will meet in Parkersburg, May 8th, 1900.

J. R. STATHERS, Secretary.

Sistersville, W. Va.

Pennsylvania State Board of Dental Examiners.

The Board of Dental Examiners of the State of Pennsylvania will conduct examinations simultaneously in Philadelphia and Pittsburg, May 8th, 9th and 10th, and in Philadelphia, June 19th, 20th and 21st.

Applications for examination must be made to Hon. James W. Latta, Secretary of the Dental Council, Harrisburg, Pa.

G. W. KLUMP, Sec'y.

Williamsport, Pa.

Vermont State Dental Society.

The twenty-fourth annual meeting of the Vermont State Dental Society will be held at St. Johnsbury, March 21-23, 1900.

A cordial invitation is extended to all,

THOMAS MOUND, Rec. Sec'y.

Rutland, Vt.

Illinois State Dental Society.

The thirty-sixth annual meeting of the Illinois State Dental Society will be held in Springfield, May 8 to 11, inclusive. Dr. E. H. Allen, Executive Committee, and Dr. J. E. Hinkins, Supervisor of Clinics, promise an interesting programme, which will be printed in full in the April number of this journal. All reputable dentists are invited to be present.

A. H. PECK, Sec'y.

92 State Street, Chicago, Ill.

New York State Dental Society.

The thirty-second annual meeting of the New York State Dental Society will be held in Albany, May 9 and 10, 1900, when the following essayists, whose subjects will be announced later, will present interesting and instructive papers:

President's Annual Address, F. Le Grand Ames, Albany.

Report of the Correspondent, R. Ottolengui, M. D. S., New York.

Report of the Committee on Practice, Henry D. Hatch, D. D. S., New York.

F. A. Capon, D. D. S., Toronto.

Joseph Head, D. D. S., Philadelphia.

Edward C. Kirk, D. D. S., Philadelphia.

S. B. Palmer, M. D. S., Syracuse.

Charles H. Barnes, Syracuse.

Milton F. Smith, D. D. S., New York.

A cordial invitation is extended to the profession to attend.

F. LE GRAND AMES, President, Albany.

W. A. WHITE, Secretary, Phelps.

Tri-State Dental Association, I. K. I.

The Tri-State Dental Association of Indiana, Kentucky and Illinois meets at Evansville, Ind., May 8 to 11, 1900.

ELWOOD SMITH, President, Mt. Vernon, Ind.

W. S. BROSMAN, Secretary, Albion, Ill.

Wisconsin State Dental Society.

President J. H. Reed, of the Wisconsin State Dental Society, announces his appointments for the year as follows:

Executive Committee—E. A. Gatterdam, La Crosse; L. R. Esau, Milwaukee; C. P. Deeming, Ashland.

Publication Committee—W. H. Carson, Milwaukee; W. C. Wendel, Milwaukee; G. C. Marlow, Lancaster.

Finance Committee—E. J. Hart, Madison; C. H. Seeger, Manitowoc; A. G. Fee, West Superior.

Ethics Committee—R. C. Gebhart, Black River Falls; E. V. Kant-sky, Marshfield; T. J. Glenn, Chilton.

Master of Clinics—C. C. Chittenden, Madison.

Essayists—B. C. Campbell, Lake Geneva; C. S. Bradley, Beloit; C. L. Babcock, Milwaukee; H. L. Cormican, Waupaca; F. D. Brennan, Ashland; R. J. Hart, Janesville; Geo. Thuerer, Baraboo; C. H. Farrand, La Crosse; J. W. Boisol, Black River Falls; W. C. Wendel, Milwaukee; S. Saxe, Whitewater; W. J. Newell, Eau Claire; J. W. Gale, Chippewa Falls; A. W. Meyer, Watertown; A. H. Johnson, Waupun; S. A. Nielsen, Madison; E. J. Eisen, Milwaukee; Edward Ward, Marinette.

The next meeting of the society will be held at La Crosse, Wis., July 17 to 19, 1900.

W. H. MUELLER, Secretary,
21 West Main street, Madison, Wis.

Wisconsin State Dental Society, La Crosse, July 17, 18, 19.

Indiana State Dental Association.

The Indiana State Dental Association meets at Indianapolis, June 19, 20, 21.

M. A. MASON, Fort Wayne, President.

F. R. HENSHAW, Middleton, Secretary.

South Carolina State Dental Association.

The thirtieth annual meeting of the South Carolina State Dental Association and State Board of Dental Examiners will be held at Harris Lithia Springs, S. C., commencing Tuesday, July 10.

Winnsboro, S. C.

DAVID AIKEN, Sec'y.

Florida State Dental Society.

The seventeenth annual meeting of the Florida State Dental Society will be held at Jacksonville, May 1, continuing in session three days.

H. R. ESTES, Palatka, President.

CARROLL H. FRINK, Fernandina, Secretary.

Third District Dental Society of the State of New York.

The Third District Dental Society of the State of New York will hold its annual meeting at Hotel Ten Eyck, Albany, Tuesday, April 17.

M. J. BARRETT, Sec'y.

Troy, N. Y.

Oklahoma Board of Dental Examiners.

The Oklahoma Board of Dental Examiners will hold their seventh annual meeting at Oklahoma City, May 1, 1900. All applications should be made before the 15th of April. E. E. KIRKPATRICK, Sec'y.

Oklahoma City, O. T.

First District Dental Society of Illinois.

The First District Dental Society meets at Galesburg, Ill., Tuesday, September 25. J. W. ADAMS, Knoxville, President.

ARTHUR G. SMITH, Peoria, Secretary.

Mississippi Valley Medical Association.

The twenty-fifth annual meeting of the Mississippi Valley Medical Association, at Chicago, was in every respect the most successful meeting in the history of the organization. Despite the many distractions of a large city, the meetings of the sections were universally well attended, and a larger percentage of those down for papers were present to read them than ever before. The discussions were full and to the point, and on this account the volume of transactions that will be issued at once will be very valuable. The following were appointed a committee on publication: Drs. Henry E. Tuley, Dudley S. Reynolds, and Lewis S. McMurtry.

The Executive Committee has ordered that no volume be sent a member who is in arrears for dues.

The following officers were elected for the coming year:

President—Dr. Harold N. Moyer, Chicago, Ill.

First Vice-President—Dr. A. H. Cordier, Kansas City, Mo.

Second Vice-President—Dr. S. P. Collings, Hot Springs, Ark.

Secretary—Dr. Henry E. Tuley, Louisville, Ky.

Treasurer—Dr. Dudley S. Reynolds, Louisville, Ky.

Chairman of Committee of Arrangements—Dr. M. H. Fletcher, Asheville, N. C.

Twenty-sixth annual meeting, Asheville, N. C., Oct. 9, 10, 11, 1900.
Very truly yours, HENRY E. TULEY, Secretary